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PL. L—C

BY

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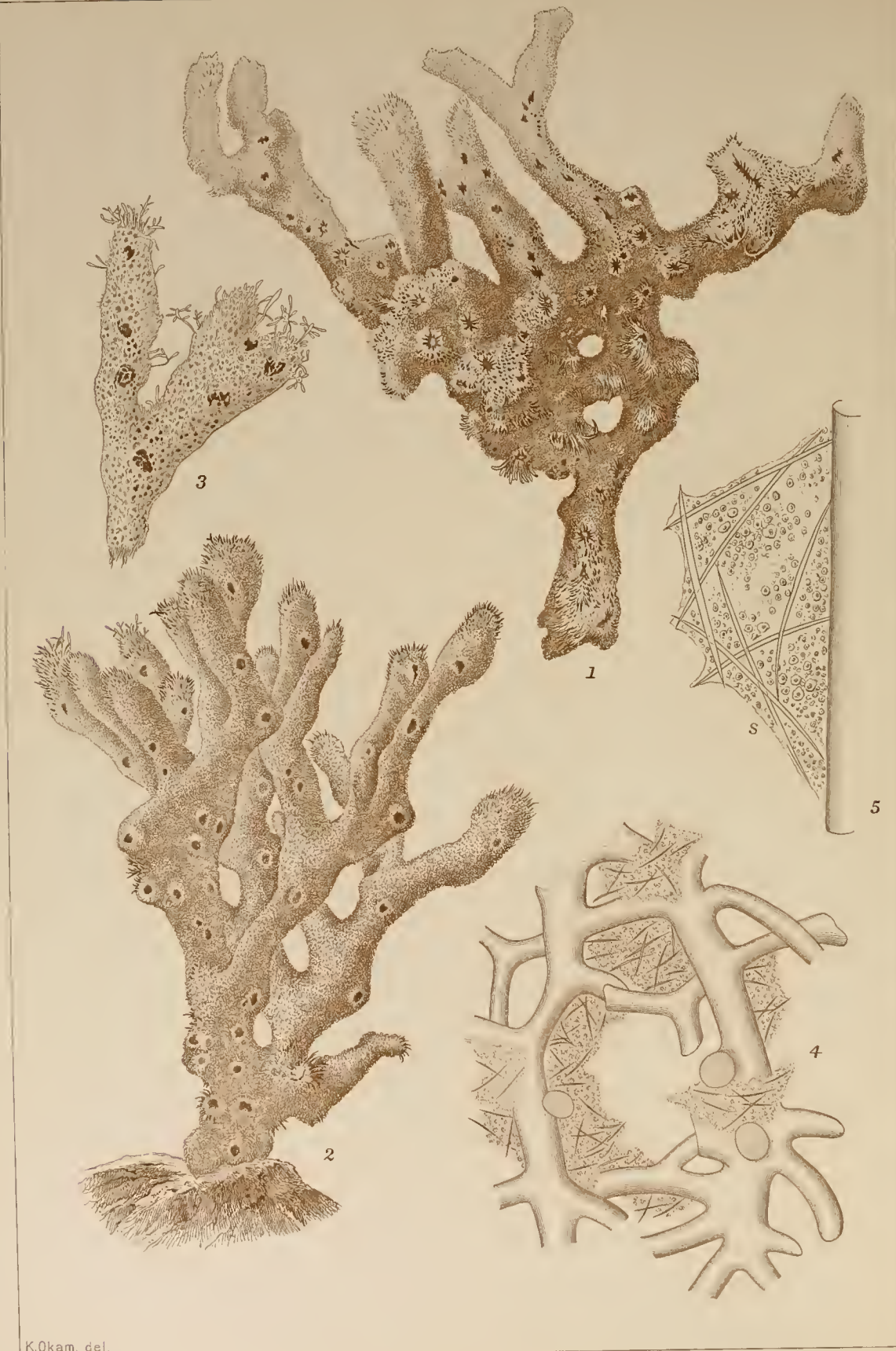
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Ceratodictyon spongiosum Zanard. かいめんきう.



9 1 6 10 11 5 3 2 7 8 4
Ceratodictyon spongiosum Zanard. かいめんさう.

Ceratodictyon spongiosum Zanard.

Nom. Jap.: *Kaimen-sō*.

PL. LI-LII.

Ceratodictyon spongiosum Zanard. *Phyceae Papuanæ* n. 8; Engler-Prantl Nat. Pflanzenfam. I, 2. p. 388; De Toni Syll. Alg. IV, p. 409.—*Sporgia cartilaginea* Esper fider *Semper* Nat. Exist. d. Thiere II, p. 177-191.—*Marchesettia spongioides* Hauck; Asken. Alg. Forschungsr. Gazelle p. 40, t. XII, f. 1-11.

Hab.: Widely stretched on rocks between tide-marks. Provs. Kagoshima, Hiuga, Tosa, Kii (C. Shiwo-no-misaki). Plants are variegated with dark bluish purple and greenish colour.

PL. LI. Fig. 1-2: fronds of *Ceratodictyon spongiosum* Zanard. bearing antheridial ramuli, in nat. state and size.—Fig. 3: portion of frond in nat. size, showing the surface of frond, fertile ramuli, and osculi.—Fig. 4: portion of the cross-section of frond showing the sponge and net-work-like structure of frond, $\frac{4^2}{1}$.—Fig. 5: sarcode, *s*, of the sponge and spicules, $\frac{220}{1}$.

PL. LII. Fig 1: growing apex of the frond, $\frac{220}{1}$.—Fig. 2: cross-section of a ramulus, $\frac{54}{1}$.—Fig. 3: portion of the cross-section of a ramulus, $\frac{320}{1}$.—Fig. 4: portion of the longitudinal section of a ramulus, $\frac{220}{1}$.—Fig. 5: terminal portion of a sterile ramulus standing free from the net-work, $\frac{16}{1}$.—Fig. 6: upper portion of frond bearing antheridial ramuli, $\frac{12}{1}$.—Fig. 7: portion of the longitudinal section of a ramulus bearing an antheridial patch, $\frac{220}{1}$.—Fig. 8: longitudinal

section of the upper portion of frond showing a fertile ramulus bearing cystocarps and net-like structure, $\frac{1}{1}$.—Fig. 9: longitudinal section of cystocarp, $\frac{54}{1}$.—Fig. 10: portion of the neucleus with a part of the central cell, $\frac{390}{1}$.—Fig. 11: very young neucleus; two larger cells below the cell, c, just going to fuse to form the central cell, $\frac{340}{1}$.

Ceratodictyon Zanardini 1878.

かいめんさう 屬.

CERATODICTYON (SPHAEROCOCCACEAE).

たまみ科, かいめんさう 亞科.

體ハ形狀極メテ不規則ニシテ種々ニ分岐シ, 各部ハ細キ圓柱狀ノ枝ノ各方面ニ分岐シタルモノ相互ニ癒着連結シ密ニ錯綜シテ宛モ海綿ノ如キ組織ヲナセルモノヨリ成ル. 體ヲ組成セル各枝ハ「バレンキマ」組織ヨリ成リ; 細胞ハ明ニ中央ヨリ周圍ニ向テ放射狀ニ列ス; 髓ハ稍細長ク伸ビタル細胞ヨリ成リテ漸次皮部ニ及ボシ, 皮部ノ細胞ハ内部ノ方ニハ稍大ニシテ長ク, 外部ノ方ニハ漸次短クシテ小ナリ; 而シテ髓部ハ後僅ニ弛緩ス; 成長點ハ放射狀ニ列セル細胞列ヨリ成ル.——實ヲ結ビタル小枝ハ一條ヅ、若クハ相集リテ海綿狀ノ部分ヨリ離レテ出デ, 其皮部ノ構造ヲ以テ實ナキ部分ノ枝ト異ナレリ; 即チ實アルモノニアリテハ皮部ハ極メテ小サキ細胞ヨリ成リ, 此等ノ細胞絲狀ニ連ナリテ枝ノ表面ニ直角ニ列ス. 四分孢子囊ハ之ヲ有スル枝ノ上部ニ於テ「チマセシア」狀ニ膨レタル皮層中ニ散在シ, 極メテ不規則ナル十字様ノ分裂ヲナス. 囊果ハ實ヲ有スル枝ノ側面ニ多數ニ生ジ, 卵形ニシテ, 殆ド無柄ノ如クナレドモ, 極メテ小ニシテ、ノ如キ小枝ニ形成セラル. 果皮ハ甚ダ厚ク, 頂端ニ果孔ヲ開ク. 仁ハ果腔

ノ内部ニ縦ニ付着シ、上部ハ殆ド球形ニシテ穹狀ニ隆起シ、仁ノ基底ヲ成セル中性組織ト果皮トヲ連絡セル組織ノ破壊セラル、爲メ果皮ハ全ク之ト離ル；而シテ仁ハ甚ダ大ナル棍棒狀ノ分岐セル中心細胞ヲ以テ果腔ノ内底ヨリ立ツ；成胞絲ハ中心細胞ヨリ甚シク分岐シテ叢生シ、外部ニ向テ極メテ多數ニ分岐セル數多ノ小枝ヨリ成リ、小枝ハ可ナリ密ニ互ニ相密着ス、而シテ總テ此等ノ小枝ノ上部ノ細胞變ジテ果胞子トナルナリ。

印度洋並ニ太平洋ノ暖部ニ産スル下ノ一種アルノミ。屬ノ名ハ *ceras* (角) ト *dictyon* (網) トヨリ成ル、即チ角質纖維ノ網ノ如クナルニ因ルモノナルベシ。

Ceratodictyon spongiosum Zanard.

かいめんさう 岡村稱。

第 LI-LII 圖版.

體ノ構造ハ屬ノ性質ニ同ジ。體ハ極メテ不規則ニ分岐シ、廣ク蔓延ス；而シテ體ノ内外トモ一種ノ海綿質ヲ以テ蔽ハレ、體ノ表面ニハ海綿類ニ固有ナル大孔ヲ開キ、主トシテ枝ノ頂端ヨリ實ヲ熟セザル若クハ實ヲ熟シタル枝ヲ游離ス。色ハ物ノ蔭ニナリタル處ハ暗紫色ニシテ、他ノ所ハ綠色ナリ。質ハ海綿質ナレドモ、藻ノ體ハ軟キ軟骨質ナリ。

產地：潮線間ノ岩石上ニ生ジ淺キ所ニアリ。琉球(黑岩氏)、薩摩坊岬、日向(大島及赤水)、土佐、紀州串本(遠藤氏)。

果實：七八月。

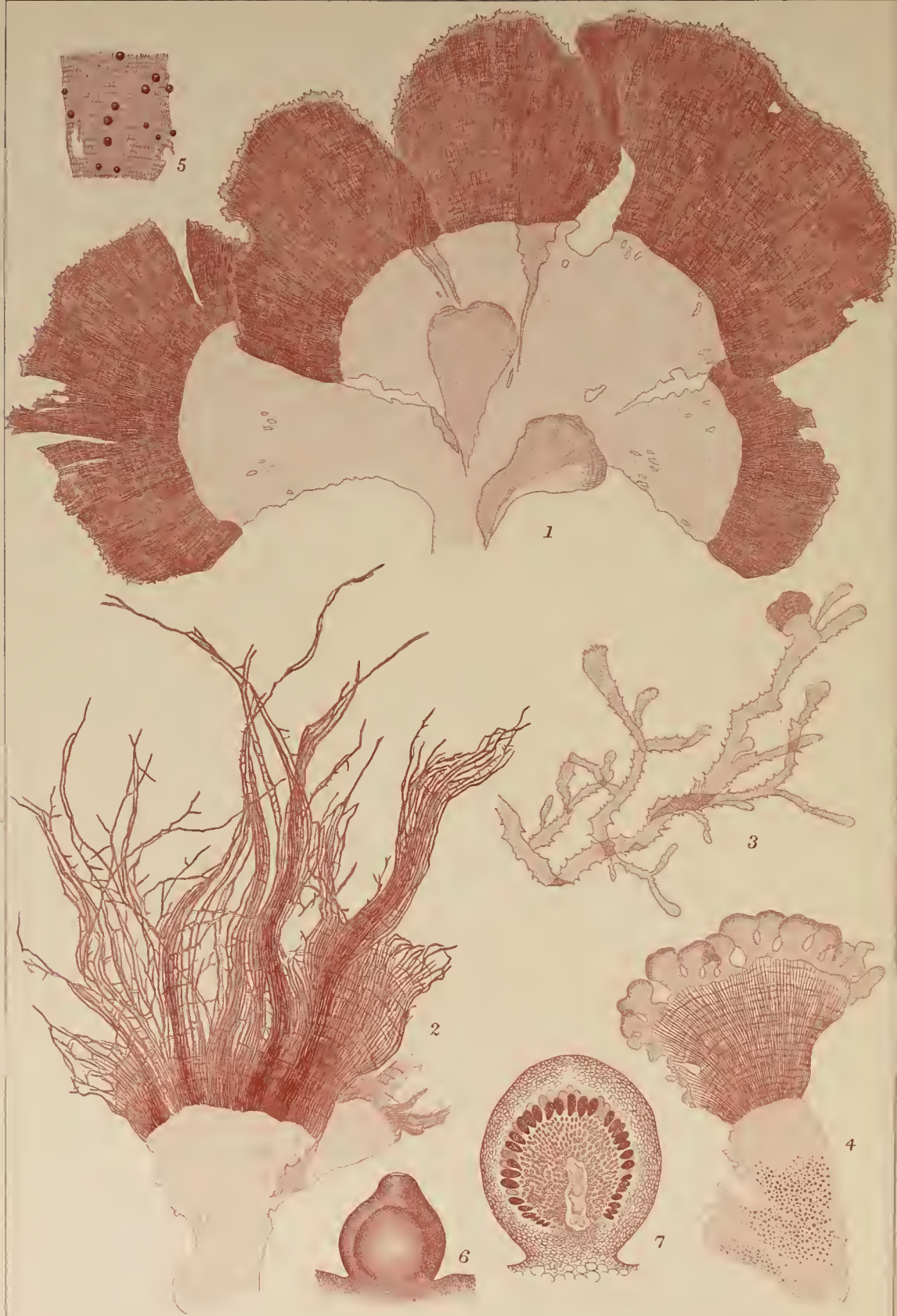
分布：印度洋及太平洋熱帶部ニ産シ海綿類ト共生ス；アドリアチック海ニ産スルモノモ多分同一ナルベシ。

備考：本種ハ全紅藻類中或種ノ海綿ト共生スルヲ以テ殊ニ著名ノ植物トス。此共生ニ就テハ既ニ Semper, von Hauck, Marchesetti 及 Askenasy 氏等ノ充分研究シタル所ニシテ、此植物ハ常ニ或種ノ海綿ト共同生活ヲ營ミ、海綿ハ藻體ノ全面ヲ蔽ヒ、且ツ藻ノ網狀ニ錯綜セル間隙ヲ填充スルヲ以テ、藻ノ形態ハ海綿ノ形態ニ依テ定マルモノトス；故ニ海綿ニ固有ナル大孔ハ諸所ニ開孔シ、藻ハ海綿ヲ以テ蔽ハル、ガ故ニ直接外部ノ海水ニ接スルヲ得ズ。實ニ藻ハ海綿ノ體內ニ於テ發生シ、其細キ枝ヲ網狀ニ錯綜シテ海綿體ノ存スル範圍ニ隨テ分岐シ、之ガ爲ニ海綿モ亦刺撃サレテ夫々ノ形態ヲナスナリ；此場合ニ於テ兩者ノ營養上ノ關係如何ハ未ダ充分明ナラズ。又、此藻ト海綿トハ常ニ互ニ共生スルカ、或ハ其ノ何レカーハ又夫々單獨ニ存スルカハ今日マデ明ナラズ。實ニ藻ハ從來嘗テ別離サレタルモノアラズ、又自然ニモ單獨ニ生存スルモノアラザレドモ、此ト共同シテ存スル海綿ハ、其骨針ノ形狀ノ種々ナルモノアルニ依テ思フニ、種々ノ種類ニ屬スルモノ、如シ。此他海綿ト藻トノ共同生活ヲ營ムモノハ尙ホ多シト雖モ、此藻ノ如ク其外形ノ海綿ニ酷似スルモノハアラズ。

第LI圖版. 1-2: *Ceratodictyon spongiosum* Zanard., かいめんさう、ノ精子器ヲ有スルモノ、自然大並ニ自然ノ狀態—3: 體ノ表面ト精子器アル小枝トヲ示ス、自然大—4: 體ヲ横斷シテ網狀ヲナセル枝ノ間ニ海綿ノ填充スル狀ヲ示ス、 $\frac{4.2}{1}$ —5: 海綿ノ肉、s、及骨針、 $\frac{2.20}{1}$

第LII圖版. 1: 枝ノ成長點、 $\frac{2.20}{1}$ —2: 枝ノ横斷面、 $\frac{5.4}{1}$ —3: 同上ノ一部、 $\frac{3.90}{1}$ —4: 枝ノ縦斷面ノ一部、 $\frac{2.20}{1}$ —5: 網狀ノ部分ヨリ游離





K.Okam del.

5

2

6

1

7

3

4

Martensia elegans Hering. あやじしき.



Martensia elegans Hering. あやしき Fig. 1-9.
Gelidium pusillum (Stackh.) LeJol. はひてんぐさ Fig. 10-14.

シタル小枝ノ頂部, $\frac{1^0}{1}$.—6: 網狀部ノ上部ヲ廓大シテ精子器アル枝ヲ示ス, $\frac{1^0}{1}$.—7: 小枝ヲ縦斷シテ精子細胞ノ群ヲ示ス, $\frac{2^0}{1}$.—8: 體ノ上部ヲ縦斷シテ囊果ヲ有スル枝ト網狀ニ錯綜セル構造トヲ示ス, $\frac{1^0}{1}$.—9: 囊果ノ縦斷面, $\frac{5^4}{1}$.—10: 中心細胞ノ一部ヨリ連ナレル仁ノ一部ヲ示ス, $\frac{3^0}{1}$.—11: 仁ノ極メテ幼キ狀態ニシテナル細胞ノ下ニ在ル稍大ナル二個細胞ハ將サニ癒合シテ中心細胞トナラントスルヲ示ス, $\frac{3^4}{1}$.

Martensia elegans Hering.

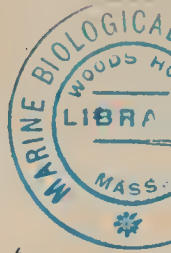
Nom. Jap.: *Aya-nishiki*.

PL. LIII; PL. LIV, Fig. 1-9.

Martensia elegans Hering in *Ann. of Nat. Hist. Vol. VIII, p. 92, Oct. 1841*; Harv. *Ner. Austr. p. 73, tab. 43*; Kuetz. *Sp. Alg. p. 988*; De Toni *Syll. Alg. IV, p. 616*; Svedelius *Martensia, 1908, f. 31*.—*Martensia australis* (non Harv.) Okam. 岡村, 日本藻類名彙 p. 48 and 232.

Hab.: On the fronds of other algae or among corallines near low tide. Prov. Hyuga, Amakusa Isl., Hirado (Prov. Hizen), Prov. Shima, Prov. Iyo, Isl. Kodzu and Oshima (Prov. Idzu), Provs. Sagami and Boshyu, Mito (Prov. Hitachi), Prov. Tango.

Remarks: Of the form of frond as well as of the development of the net-work, I think, there will be no need for further remarks, as Svedelius amongst others fully described it of late. Among the materials passed through my hands there are two extreme forms.



One has very much elongated, linear, band-shaped frond and it branches in an irregularly dichotomous manner, having the net-work on apical portions of branches whose continuous (not net-worked) portion and the upper margin of the net-work are serrated (Pl. LIII, fig. 3). The other one develops secondary net-works on the lobes of primary marginal membrane which grow up into cuneate segments (Id., fig. 4.)

I took the linear form referred to for an extremely abnormal form of some species of *Martensia* and the alternately net-worked one for either *M. denticulata* or *M. pavonia*. Recently, N. Svedelius made a full study on the plants of this genus, and in his work, it is stated that *M. denticulata* has the aforesaid continuous portion developed in the highest degree of all species, and from that character I think both forms in question to be *M. denticulata*. But, at present, as the materials are only fragmental, I leave the matter for my further study.

PL. LIII. Fig. 1: frond of *Martensia elegans* Hering in nat. size.—Fig. 2: older frond with lacerated net-work, nat. size.—Fig. 3: portion of a linear, elongated frond considered to be an abnormal form of *M. denticulata*, $\frac{1}{1}$.—Fig. 4: portion of the alternately net-worked frond of *M. denticulata* (?), bearing tetrasporangia in the primary membrane, $\frac{1}{1}$.—Fig. 5: portion of the net-work of *M. elegans* bearing cystocarps, $\frac{1}{1}$.—Fig. 6: cystocarp, $\frac{12}{1}$.—Fig. 7: longitudinal section of cystocarp, $\frac{42}{1}$.

PL. LIV, fig. 1-9. Fig. 1-2: growing marginal portion of frond of *M. elegans* showing the development of the net-work in surface view, $\frac{220}{1}$.—Fig. 3: the same further advanced with some cross-bars produced from the longitudinal bars (i.e. lamellae of Svedelius) $\frac{140}{1}$.—Fig. 4: cross-section of the membranous portion (100 μ thick), $\frac{220}{1}$.—Fig. 5 a-c: three portions of the longitudinal section of the net-work

bearing tetraspores, extending from the upper margin to a longitudinal bar; the former shown in section, the latter mostly in surface-view of the side; α , bottom surface of a gap in the plane of the section; the ends marked \times and \times_1 in one portion are connected with those bearing the same marks in the other, but with the intervening portions omitted, $\frac{140}{1}$; portion marked 5δ measures 32μ in thickness.—Fig. 6: portion of the surface-view of the net-work bearing tetraspores, $\frac{54}{1}$.—Fig. 7: portion of the same as fig. 6 magd., $\frac{91}{1}$.—Fig. 8: cross-section of the net-work bearing tetraspores, $\frac{91}{1}$.—Fig. 9: surface-view of the side of a longitudinal bar showing the cells covering a tetrasporangium, $\frac{80}{1}$.

Martensia Hering 1841.

あやにしき属.

NITOPHYLLEAE (DELESSERIACEAE).

このはのり科, うすばのり亞科.

體ハ葉狀ニシテ薄ク, 叉狀又ハ種々ニ分裂シ, 中肋若クハ細脈ナシ, 而シテ體ノ縁邊ニ沿ヒテ網狀ノ部ヲ存シ若クハ葉狀部ノ一部ニ多少廣キ範圍ニ於テ網狀ノ部ヲ存ス; 此網狀部ハ恰モ格子細工ノ如クシテ, 薄キ, 幅狭キ, 縦ト横トノ棧ニテ成リ, 棧ハ孰レモ體ノ表面ニ直角ヲナシテ立チ, 縦ノ棧ハ互ニ並行シテ相接近シ, 横ノ棧モ亦多少體ノ縁邊ニ並行シテ存ス, 而シテ網狀部ノ上部ノ外縁ニハ細長キ薄キ膜片ヲ着ク, 其形狀ハ種々ナリ. 體ノ成長ハ介生的ニシテ, 縁邊ニ沿フテ成長點アルコトナク, 各部ノ表面ニ並行ニ細胞ノ分裂スルコトニ

依リテ其部ノ面ヲ増大シ、且肥厚ス。——四分孢子囊ハ小サキ圓形ノ群ヲナス；群ハ網狀部ノ下部ナル膜狀部ノ上部ニ生ジ、又概テ網狀部ノ棧ニ散在シテ生ズ。囊果ハ網狀部ノ棧ノ縁ニ生ジ其縁邊ノ增厚シタル所ニ坐シ、卵形ニシテ甚シク膨大ス；胎坐(中心細胞ノ下ナル組織ニテ中心細胞ヲ支持スル部)ハ頗ル發達シテ存ス；孢子ヲ形成スル成胞絲ハ殆ド頭狀ニ肥大シ、可ナリ大ナル中心細胞ヨリ叢生シ、密ニ相集リ、且可ナリ密ニ固着ス；孢子ハ成胞絲ノ頂端ノ細胞ヨリ變ジ、穹狀ニ隆起セル面ニ密ニ排列ス。

各地ノ暖海ニ産シ、約7種アリ。屬ノ名ハ Brussels ノ學者 Prof. Martens 氏ノ名譽ノ爲メ設ケタルナリ。

Martensia elegans Hering 1841.

あやにしき 岡村稱

第LIII圖版；第LIV圖版，1-9圖。

體ハ薄キ膜狀ニシテ又狀ニ分裂シ、裂片ハ楔形又ハ稍扇狀ヲナシテ相重疊シ、之ヲ擴グレバ全體ノ輪廓ハ扇狀ニシテ、莖ナク、體ノ下部ノ諸所ニ付着器ヲ形成シテ岩石介殼等ニ附着ス；體ハ高サ10-15 cm.ニ達シ、幅ハ全體ニテハ高サト略ボ同ク又ハ少シク廣シ。膜狀部ハ、之ヲ表面ヨリ見レバ、多角形ノ細胞ヨリ成リ、1-2層乃至數層ヲ以テ成ル。網狀部ハ高サ3-4 cm.ニシテ網目ハ廣狹一ナラズ、而シテ網ノ上縁ヲ作レル膜片ハ狭クシテ、稍粗キ鋸齒ヲ存ス。老者ハ上縁ノ膜片ナク網ハ往々破ル、ニ至ルモノアリ(第LIII圖版，2圖)。

網狀部ハ初メ膜狀部ノ外縁ニ在ル細胞稍増大伸長シテ二個ニ分裂シ以テ頂細胞ト基部細胞トヲ造リ、其基部細胞ハ分

裂セザレドモ、頂細胞ハ更ニ縁邊ニ並行ニ横ニ數回分裂ス、而シテ數多ノ縦列ハ互ニ少シク離レテ立ツ(第 LIV 圖版, 1 圖). 後其頂部ノ細胞ハ彼是相隣接スル側面ヲ以テ接觸シ、屢々分裂シテ外縁ヲナスベキ膜片トナリ、殘餘ノ細胞ハ益々横ニ分裂シテ其部ヲ伸長シ、且ツ彌々互ニ相離レテ間隙ヲ形成ス(同, 2 圖). 此縦列ノ細胞ハ更ニ體ノ表面ニ互行シテ分裂シ、以テ薄キ膜片ヲ形成スルコト恰モ格子ノ縦ノ棧ノ如シ; 其一層若クハ二層ノ細胞ニテ成レルコトハ 第 LIV 圖版 8 圖ヲ以テ見ルベシ. 後縦ノ棧ナル膜片ヨリ枝ヲ生ジ、此枝其相隣レル縦ノ棧ト癒着シテ以テ横ノ棧ヲナスコト同圖及第 3 圖ヲ以テ見ルベシ.

四分胞子囊ハ網狀部ノ下ナル膜狀部ノ上部ニ稍群ヲナシテ散在シ、又ハ網ノ棧ニ散在シテ生ズ. 囊果ハ卵形ニシテ頂端少シク突出シ、其部ニ開口シ、なたねノ種子大ナリ. 色ハ生鮮ノ時ハ稍綠色ノ如キ閃光ヲ有スレドモ、乾燥スルトキハ美シキ紅色トナル. 質ハ軟キ膜質ニシテ、淡水ニ浸ストキハ頽レ易シ; 乾燥スルトキハ紙ニ密着ス.

產地: 低潮線附近ノ藻類、岩石、介殼等ノ上ニ在リテ稍深ク、波浪ノ靜ナル所ニ在リ. 日向、天草島、平戸、伊豫、志摩、神津島、伊豆大島、相模、安房、水戸、丹後.

分布: 亞弗利加赤道部(ボートナタル); ニウフホルランド東部(ニウカスル)及西部(フレマントル).

備考: 本植物ハ其生鮮ノ時ハ網狀部稍厚キヲ以テ恰モ布ヲ手ニスルガ如キ觸覺アリ; 相洲三崎地方ニテちりめんのりの名アル所以ナリ.

嘗テ大久保氏ガ伊豆大島泉津ニテ採集シタルモノ(植物學雜誌第一卷第五號九十九頁、第十二圖版)ハ多分本種ト同一ナルベシ.

予ノ調査シタル許多ノ標本中甚ダ極端ナル形狀ヲ有スルモノ二種アリタリ。一ハ甚シク長キ、狭キ線狀ニシテ屢々不規則ニ叉狀ニ分岐シ、枝ノ上部ニ網狀部ヲ形成シ、其下ナル膜狀部及ビ網狀部ノ縁邊ナル膜狀部ハ鋸齒ヲ有ス(第 LIII 圖版, 3 圖)。他ノ一ハ網狀部ノ縁邊ナル膜狀部ハ小サキ扇狀ノ裂片ニ伸長シ、其上部ニ更ニ第二ノ網狀部ヲ形成スルモノナリ(全, 4 圖)。予ハ上記ノ細キ線狀ノモノヲ此屬ノ或種ノ甚シク異常ナル發育ヲナシタルモノトシ、二回網狀部ヲ形成スルモノヲ *M. denticulata* 若クハ *M. pavonia* ノ孰レカナルベシト思惟セリ。近來、N. Svedelius 氏ハ此屬ノ藻類ニ就キ詳細ナル研究ヲナシタリ; 今氏ノ書ノ示ス所ニ據ルニ *M. denticulata* ハ此屬ノ孰ノ種類ヨリモ始原ノ即チ第一回ノ膜狀部ヲ形成スルコト最モ大ナルモノナリト。予ハ此性質ヨリシテ、上記ノ二様ノモノハ孰モ *M. denticulata* ナルベシト思考ス。然レドモ今材料充分ナラザルヲ以テ、暫ク後日ノ攻査ニ俟ツコトトセリ。

第 LIII 圖版. 1: *Martensia elegans* Hering, あやにしき、ノ裂片ヲ擴ゲタルモノ, $\frac{1}{1}$ —2: 網狀部ノ破ル、ニ至リタルモノ, $\frac{1}{1}$ —3: *M. denticulata* ノ一變形ト思ヘルモノ, $\frac{1}{1}$ —4: 上縁ノ膜片更ニ成長シテ網狀部ヲ生ゼル *M. denticulata* (日向産)ノ四分胞子ヲ有スルモノ, $\frac{1}{1}$ —5: 囊果ヲ有シタル網狀部ノ一部, $\frac{1}{1}$ —6: 囊果, $\frac{13}{1}$ —7: 囊果ノ縦斷面, $\frac{43}{1}$ 。

第 LIV 圖版, 1-9 圖. 1-2: 幼キ體ニ網狀部ノ形成サル、順序ヲ示ス; 圖ハ體ノ表面ヨリ見タルモノナリ, $\frac{220}{1}$ —3: 網狀部ノ略ボ完成シタルモノヲ表面ヨリ見タルモノ, $\frac{140}{1}$ —4: 膜狀部ノ横斷面, 厚サ 100 μ , $\frac{220}{1}$ —5 a-c: 四分胞子ヲ有スル體ノ頂端ヨリ網狀部ヘカケテ斷リタル同一ノ斷面ヲ三個ニ分チテ示シタルモノニシテ、一部ハ斷面ヨリ見、一部ハ表面ヨリ見タルナリ; 其斷面ニテ現ハサレタル部分ハ 5 a ノ上端ノ部ナリ; \times, \times_1 等ハ

合印ナレドモ其中間ハ幾分略シタリ; a ハ網目ノ部ノ向側ノ表面ナリ; $5b$ ノ部ハ厚サ 32μ アリ; ¹⁴⁹.—6: 四分胞子嚢ヲ有スル網ヲ體ノ表面ヨリ見タルモノ, ⁵⁴.—7: 同上ノ一部ヲ廓大シテ示ス, ⁹¹.—8: 網狀ノ部ヲ横斷シテ四分胞子嚢ヲ示ス, ⁹¹.—9: 四分胞子嚢ヲ表面ヨリ見テ其上ヲ蔽ヘル細胞ヲ示ス, ⁸⁹.

Gelidium pusillum (Stackh.) Le Jol.

Nom. Jap. Hai-tengusa.

PL. LIV, Fig. 10-14.

Gelidium pusillum (Stackh.) Le Jol. List. Alg. Mar. Cherb. p. 139; Hauck Meeresalg. p. 195; Okam. List Mar. Alg. Carol. Isl. and Austr. (Bot. Mag. XVIII, Tokyo, 1904, p. 86-87); De Toni Syll. Alg. IV, p. 147.—*Fucus pusillus* Stackh.; Turn. Hist. Fuci. t. 108.—*Gelidium corneum* var. *clavatum* Harv. Phyc. Brit. t. 53, f. 6.—*Gelidium corneum* var. *caespitosum* J. Ag. Sp. Alg. II, p. 740; Ardiss. Phyc. Med. I, p. 288.—*Acrocarpus pusillus* Kuetz. Sp. Alg. p. 762; Id. Tab. Phyc. XVIII, t. 37.—*Acrocarpus pulvinatus* Kuetz. Sp. Alg. p. 762; Id. Tab. Phyc. XVIII, t. 37.—*Gelidium pulvinatum* Thur. in Born. Alg. Schousb. p. 768.—*Gelidium repens* Okam. Contr. Knowl. Jap. Alg. III, p. 7, Pl. I, f. 5-8 (Bot. Mag. Tokyo, Vol. XIII, no. 143, p. 8); Id. Alg. Jap. Exsic. n. 5; De Toni Syll. Alg. IV, p. 1860; 岡村, 日本藻類名彙 p. 21.

Hab.: On rocks near high tide. Provs. Ise, Sagami, Boshyu, Kadzusa.

PL. LIV, fig. 10-14. Fig. 10: densely matted patch of *Gelidium pusillum* (Stackh.) Le Jol. in nat. state and size.—Fig. 11: single frond in the natural state and size.—Fig. 12: portion of a sterile frond viewed from the under-surface; r , root; moderately

magd.—Fig. 13: portion of frond bearing tetrasporangia, $\frac{3}{1}$.—Fig. 14: portion of frond bearing cystocarps, $\frac{3}{1}$.

Gelidium pusillum (Stackh.) Le Jol.

はひてんくさ 岡村 稱

第 LIV 圖版, 10-14 圖.

體ハ絲狀ニシテ匍匐錯綜シ, 所々ヨリ短キ根ノ如キ盤狀ノ小枝ヲ出シテ岩石ニ附着シ, 密ニ網羅シテ恰モ毛織物ヲ見ルガ如シ. 始メハ圓形ニ擴ガリテ枝ハ皆岩石ニ固着スレドモ, 漸次其蔓延伸長スルニ從ヒ, 枝漸ク多ク且ツ密トナルニ及ビ枝ノ一部ハ岩ヨリ離レテ斜上シ, モサモサトシテ錯綜スルニ至ル. 分枝ノ法ハ大體羽狀ナレドモ, 決シテ各部ノ兩緣ヨリ正シク枝ヲ出スニアラズシテ, 五條乃至數條ノ枝又ハ小枝ノ往々相接近シテ出ルコトアリ. 枝ノ始メハ恰モ微小ナル齒ノ如ク若クハ刺狀ノ突起ノ如クナルヲ以テ, 枝ノ緣邊ハ往々鋸齒狀ヲナスコトアリ. 枝ハ圓柱狀(太サ 300-350 μ アリ)ナルカ又ハ輕ク扁壓シ, 時ニハ甚シク扁平トナリ, 葉狀ノ如クナルモノサヘアリ. 或ハ錐ノ如ク細ク尖リ, 或ハ棍棒狀ヲナス等種々ナリトス, 而シテ小枝ノ長サハ 1-3 mm. ニ達ス.——囊果並ニ四分孢子ハ小枝ニ形成セラル. 四分孢子囊ハ扁平ニシテ長楕圓形ノ如ク開張セル小枝ニ集リ生ズ. 囊果ハ小ニシテ球狀, 鈍頭又ハ微突起ヲ戴キ, 小枝ノ頂端又ハ頂端ニ近ク生ズ色ハ紫紅色. 質ハ軟骨質ナリ.

產地: 高潮線附近ノ岩石ニ叢生ス. 伊勢, 相模, 房洲, 上總.

分布: アドリアチツク海(多年生); 太西洋(スペイン及ビ英國).



K. Okam. del.

14 15 7 4 16 2 5 10 8 9 6 1 12 18 17 13 19 3 11
Herpopteros Zonaricola Okam. n. sp. のぶぐさ.

第 LIV 圖版. 10-14 圖. 10: *Gelidium pusillum* (Stackh.) Le Jol., は
ひてんぐさ, ノ叢生スル狀, 自然大.—11: 單獨ノ個體, 自然ノ態,
 $\frac{1}{1}$.—12: 實ナキ體ノ一部ヲ裏面ヨリ見タルモノ; r , 付着器; 廓
大.—13: 四分孢子囊ヲ有スル體ノ一部, $\frac{33}{1}$.—14: 囊果ヲ有スル
體ノ一部, $\frac{33}{1}$.

Herpopteros zonaricola n. sp.

Nom. Jap.: *Shinobu-gusa*.

PL. LV.

Diagn. Fronds filiform, creeping on other algae, with dorso-ventral structure, alternately branched; main branches with longer or shorter pinnae which are similarly pinnated with teeth-like pinnulae. Branches arise spirally in $\frac{1}{5}$ divergence, of which one dorsal and two ventral ones remain undeveloped and the remaining two grow up to normal branches subdistichously arising from somewhat dorsal side of frond. All of them either undeveloped or growing carry dichotomo-decompound hair-leaves on their apices. Pericentral cells five in number, of which two are disposed on the dorsal side and three on the ventral, and thoroughly ecorticated. Tetrasporangia produced in somewhat stichidia-like pinnulae, being arranged in a slightly twisted longitudinal order with a single sporangium in every articulation and provided with a single disordered row of the remains of hair-leaves on the dorsal side, externally covered with two cover-cells on the ventral side. Antheridia produced on hair-leaves on the terminal portion of pinnulae. Cystocarps ovate and sessile.

Hab.: On the frond of *Zonaria Diesingiana* J. Ag. growing

between tide marks ; Bōshyū. Fruits : late spring to summer.

Description. Fronds filiform, almost terete creeping on other algae by emitting scutate discs from the under-surface, subdistichously branched in pinnate manner. Main branches alternately pinnated with longer or shorter pinnae which often grow up into similarly pinnated branches of indefinite growth or remain short by making definite growth with alternately arranged longer or shorter teeth-like pinnulae. Main branches are often arranged in somewhat corymbose manner.

Frond has five pericentral cells, thoroughly ecorticated, of which, two are on the dorsal side and three on the ventral. From every articulation branches are emitted, being spirally inserted in the arrangement of $\frac{1}{5}$ -divergence ; of them, those standing on the dorsal median line and on two longitudinal rows of the ventral side, all of them alternating with five articulations, do not however, develop at all, but remain only one-celled. Only those standing along both sides of the frond and somewhat approaching to the dorsal side develop into longer or shorter lateral branches. By latter arrangement of the lateral branches dorso-ventral character is weakly represented. All those branches, either growing or rudimental, carry, when young, hair-leaves on apices. Hair-leaves are compound dichotomous and those growing on the branches arising both from the dorsal and ventral surface are of weaker nature than those on the lateral ones.

Tetrasporangia produced in a slightly differentiated stichidia-like pinnulae which are somewhat fusiform, slightly swelling in the middle portion. They are arranged in a very slightly twisted and almost longitudinal row, each articulation containing one sporangium and provided with a single disordered row of the remains of hair-

leaves on the dorsal side, being covered with two cover-cells on the ventral.

Antheridia formed from hair-leaves grown on the terminal portion of pinnulae. Procarps are formed from the second joint of a hair-leaf growing near the apex of branches. Cystocarps are ovate and sessile. Colour red.

Remarks. A distinct, new species. That dorso-ventral structure of the present plant is not so manifest as that of the type-species, *H. fallax* Fkbg., is only seen from the arrangement of the normal branches which arise subdistichously from somewhat dorsal side of frond. In the present plant, branches are spirally grown in the arrangement of $\frac{1}{5}$ divergence, of which, however, two branches alone develop into the aforesaid normal ones, while the rest remain in a rudimental state. The apical portion of the plant in question does not indicate any distinct dorsoventral nature.

While this nature is more clearly shown in the type-plant in the arrangement of both normal and rudimental branches arising on the dorsal side of frond, in the present plant it is only weakly indicated as described above. But as we learn from Falkenberg's *Rhodomelaceen* p. 52 that the dorso-ventral character is represented in different ways even in the different species of the same genus, we think we are right to put the present plant in this genus.

PL. LV. Fig. 1: fronds of *Herpopteros zonaricola* Okam. n. sp. on the frond of *Zonaria Diesingiana* J. Ag. in nat. state and size.—Fig. 2: portion of the frond magd., $\frac{8}{1}$.—Fig. 3: portion of a branch; *a* and *b*, hair-leaves still remaining on the branches growing from the dorsal side of frond; $\frac{5}{1}$.—Fig. 4: apical portion of a branch viewed from side; *a* and *b*, hair-leaves growing on the dorsal side of frond; $\frac{390}{1}$.—Fig. 5: dorsal view of an apical portion of a

branch; α , β , hair-leaves on lateral branches; α , β , the same on those growing from the dorsal and ventral side respectively; $\frac{390}{1}$.—Fig. 6: ventral view of an apical portion of branch; characters same as in Fig. 5; $\frac{340}{1}$.—Fig. 7: cross-section of frond with the dorsal side, α , above, $\frac{390}{1}$.—Fig. 8: diagrammatic cross-section of frond with a scutate root, α , β , and α' , and c , c' indicate places where the normal, the dorsal and the ventral branches arise respectively.—Fig. 9: dorsal view of a stichidium, $\frac{220}{1}$.—Fig. 10: ventral view of the same, showing cover-cells; the line $\alpha \beta$ indicates the lower end of the cavity in which tetrasporangia are contained; $\frac{220}{1}$.—Fig. 11: terminal portion of a branch bearing a fully grown antheridium and two young ones seen from the dorsal side of frond, $\frac{390}{1}$.—Fig. 12: early stage of an antheridium; α , growing apex of the branch; $\frac{390}{1}$.—Fig. 13: antheridium, $\frac{220}{1}$.—Fig. 14: a young procarp, β , $\frac{600}{1}$.—Fig. 15: the same bearing a trichogyne, γ , $\frac{600}{1}$.—Fig. 16-17: cystocarps, $\frac{54}{1}$.—Fig. 18-19: dorsal view of stichidia, showing the disordered arrangement of basal cells of hair-leaves, $\frac{220}{1}$.

Herpopteros Falkenberg.

しのぶぐさ属.

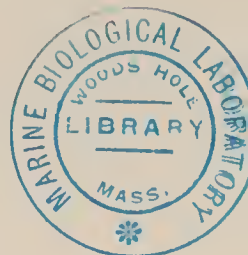
HERPOSIPHONIEAE (RHODOMELACEAE)

ふちまつも科, ひめごけ亞科.

體ハ腹背ノ性質ヲ存シ, 匍匐シ, 裏面ノ所々ヨリ散在シタル根ヲ以テ附着シ, 扁壓ニシテ, 兩縁ヨリ分枝シ, 各節ニ概テ9條ノ周心細胞ヲ有シ, 全ク皮層細胞ヲ以テ蔽ハル、コトナシ。主枝ハ兩縁ヨリ長短不齊ナル側枝ヲ互生シテ羽狀ニ分枝シ, 此枝或ハ主枝ト同ジク無限ニ成長シ, 或ハ早ク既ニ有限的成長

ヲナシテ多少短ク止リ、以テ長キ或ハ短キ齒狀ノ小羽枝トナルコトアリ。各節ヲ形成スル周心細胞ハ一方ノ側面ニ多ク集リ、各節毎ニ一個ノ枝トナルベキ細胞ヲ生ズ；此等細胞中、一ハ背面ノ中央線ニ沿フテ三關節ヲ距テ、立チ、他ノ二ハ稍腹面ノ方ニ接シタル兩縁ヨリ出ヅ；此兩縁ヨリ出ルモノハ長キカ又ハ短キ枝トナリテ早晚伸長スレドモ、其背面ヨリスルモノハ常ニ發育スルコトナクシテ一個細胞ノ狀態ニテ終ル。只、最末位ノ分岐セザル枝ハ時トシテ其背面ニ毛狀葉ヲ存ス；毛狀葉ハ二列ニ且ツ互生ニ分岐ス。——四分胞子囊ハ僅ニ區別セラルベキ「ステイキヂア」狀ノ枝ニ多數ニ形成セラル；「ステイキヂア」ハ最末位ノ分岐セザル小枝ノ上部ニシテ、其枝ニハ毛狀葉ナシ、而シテ背面ノ方ニ稍灣曲シ、其部ニ胞子ノ短キ縱列ヲ存シ、其外面ハ二個ノ同長ナル細胞ヲ以テ蔽ハル。精子器ハ明ナラス。胎原ハ毛狀葉ヲ有スル枝ニ生ジ、最下部ニ在ル毛狀葉ノ第二ノ關節ヲ形成スル細胞ヨリ膨出シテ生ズ。囊果ハ球狀ナリ。

從來南部オーストラリアノ海ニ *H. fallax* Fkbg. ト云ヘル一種アルノミ。此 *Herpopteros* 屬ハ腹背的體制ノ特殊ノ型式ヲ示スモノニシテ、其型式ハふぢまつも科中他ニ比類ナク、ひめごけ亞科 (*Herposiphoniae*)、ポリゾニア亞科 (*Polyzonieae*)、及ひをしぐさ亞科 (*Amansieae*) ノ孰レニモ直ニ相嘗スベキモノニアラザルナリ。——屬ノ名ハ *herpo* (匍匐スル) ト *Pteron* (翼) トヨリ成ル、即チ體ノ形狀ニ因レルナリ。



Herpopteros zonaricola 新種.

しのぶぐさ 岡村 稔.

第LV圖版.

性質. 體ハ絲狀ニシテ他ノ海藻上ニ匍匐シ、腹背的構造ヲ有シ、互生ニ枝ヲ分ツ；主枝ハ長キ又ハ短キ羽枝ヲ有シ、羽枝ハ又同様ニ齒狀ノ小羽枝ヲ有ス。枝ハ(正確ニ云ヘバ)五分ノ一ノ開度ヲ以テ螺旋狀ニ立ツモノニシテ、其中背面ニアルト腹面ニアル二トハ發育伸長セズ、殘餘ノ二ノミ常態ノ枝ト成リ、體ノ稍背面ノ方ニ偏シテ兩緣ヨリ二列ニ出ヅ。枝ハ其伸長セザルモノト否トヲ問ハズ、頂端ニ複叉狀ノ毛狀葉ヲ戴ク。周心細胞ハ五條ニシテ、二個ハ背面ノ方ニ、三個ハ腹面ノ方ニ存シ、全ク皮層細胞ヲ被ムルコトナシ。四分胞子囊ハ稍「ステイキジア」狀ヲナセル小羽枝ニ生ジ、少シク捻レタル縦列ヲナシテ各關節ニ一個宛ヲ藏シ背面ニ毛狀葉ノ殘片ノ少シク不規則ニ列セル一列ヲ存シ、腹面ハ各二個ノ蓋細胞ヲ以テ蔽ハル。精子器ハ小羽枝ノ頂端ナル毛狀葉ニ生ズ。囊果ハ卵球狀ニシテ無柄ナリ。

產地：潮線間ニ生ズルしまあふぎ, *Zonaria Diesingiana* J. Ag., ノ體上ニ附着ス。房州白濱村。果實：一晚春ヨリ夏季。

記載：體ハ絲狀ニシテ、殆ド圓柱狀、裏面ヨリ圓盤狀附着器ヲ生ジテ他ノ藻體上ニ匍匐シ、兩緣ヨリ稍二列ニ羽狀ニ分枝ス。主枝ハ長キ又ハ短キ羽枝ヲ互生シ、羽枝ハ或ハ無限ニ伸長シテ同ジク羽狀ニ分枝セル枝トナルカ、或ハ有限成長ヲナシテ短ク止リ、長キ又ハ短キ齒狀ノ小羽枝(若クハ位置ニヨリテハ最小羽枝)ヲ互生ス。主枝ハ往々稍繖房狀ニ排列ス。

體ハ五條ノ周心細胞ヲ有シ、全部皮層細胞ナシ、而シテ五條ノ中二條ハ背面ニ、三條ハ腹面ニアリ。體ノ各關節ヨリ、枝ハ五分ノ一ノ開度ヲ以テ螺旋狀ニ出ヅ；其中背面ノ中央線ニ立ツモノト、腹面ニ二縱列ヲナシテ出ルモノトハ、孰レモ五個ノ節間ヲ巨テ、出ルモノニシテ全ク伸長スルコトナク只一個ノ細胞ノ狀態ニテ止ル。只體ノ兩緣ニ沿フテ出ルモノ、ミ常態ノ長キ又ハ短キ側枝トナリテ伸長ス；此枝ハ稍背面ノ方ニ接シテ出ヅ。斯ノ如キ枝ノ配置ニヨリテ、腹背的性質ハ僅ニ現ハル。總テ此等ノ枝ハ、其伸長スルモノト否トヲ問ハズ、幼時ニ當テハ上部ニ毛狀葉ヲ戴ク。毛狀葉ハ複叉狀ニシテ、背面及ビ腹面ヨリ出ル枝ニ生ズルモノハ兩緣ヨリ生ズル枝ニ在ルモノヨリモ纖弱ナリ。

四分孢子囊ハ微カニ「ステイキジア」狀ヲナセル小羽枝ニ生ジ、稍紡錘狀ニシテ中央部少シク膨大ス。四分孢子囊ハ極メテ僅ニ捻レタル縱列ヲナシテ各節間部ニ一個ヅ、生ジ、背面ニ毛狀葉ノ殘片ノ少シク不規則ニ排列セルモノヲ附ケ、腹面ハ二個ノ蓋細胞ヲ以テ蔽ハル。精子器ハ小羽枝ノ頂部ニ生ズル毛狀葉ニ形成セラル。胎原ハ枝ノ頂端ニ近ク生ズル毛狀葉ノ第二ノ節ニ形成セラル。囊果ハ卵球狀ニシテ無柄ナリ。色ハ紅色。

備考。明ニ一種ノ新植物ナリ。今本植物ヲ此屬ニ置クニ就テ多少ノ說ナキ能ハズ。本植物ハ之ヲ此屬ノ模範種タル *H. fallax* Fkbg. ニ比スルニ其腹背的性質ハ極メテ微ニシテ、只體ノ稍背面ニ近キ兩緣ヨリ常態ノ枝ノ二列ニ生ズルコトニ依テ其性質アルヲ知ルノミナリ。本種ニアリテハ、枝ハ上記セル如ク五分ノ一ノ開度ヲ以テ螺旋狀ニ生ズト雖モ、其中二條ノミ只常態ノ枝トナリ、他ハ發育不完全ノ狀態ニテ殘存ス。又本植物ノ成長點ハ少シモ腹背ノ性質ヲ示スコトナシ。

模範種ニ於テハ常態ノ枝並ニ發育不完全ノ者ガ體ノ背面ヨリ生ズルコトニ因テ充分明ニ腹背的構造ヲ見ルベシト雖モ、本植物ニ於テハ、上ニモ云ヘル如ク、只僅ニ之ヲ知ルニ過ギズ。然レドモ、Falkenberg 氏ノ著書 Rhodomelaceen 52 頁ニ示ス如ク、腹背的性質ハ同一屬中ノ植物ニテモ皆同一ニハアラスシテ、種々異ナリタル構造ヲ以テスルト云フヲ以テ、予ハ本植物ヲ此屬ニ配スルコトノ至當ナルヲ信ゼント欲スルモノナリ。

第LV圖版. 1: しのぶぐさ, *Herpopteros zonaricola* Okam., ノしまあふぎノ上ニ生ズル自然ノ狀態, $\frac{1}{1}$.—2: 體ノ一部ヲ廓大シタルモノ, $\frac{8}{1}$.—3: 枝ノ一部; a, b , 體ノ背面ヨリ生ズル枝ニ毛狀葉ノ尙ホ殘存スルモノ, $\frac{54}{1}$.—4: 枝ノ頂部ヲ側面ヨリ見タルモノ; a, b , 體ノ背面ヨリ生ズル毛狀葉; $\frac{390}{1}$.—5: 枝ノ頂部ノ背面; a, β , 兩緣ヨリ生ズル枝ノ上ニ在ル毛狀葉; a , 背面ヨリ生ズル枝ノ上ニアル毛狀葉; b , 同上ノ腹面ヨリスルモノ; $\frac{390}{1}$.—6: 枝ノ頂部ヲ腹面ヨリ見タルモノ; 指字ハ5圖ニ同ジ; $\frac{340}{1}$.—7: 體ノ橫斷面ニシテ, a ハ背面ヲ示ス, $\frac{390}{1}$.—8: 一個ノ吸盤狀附着器ヲ有スル橫斷面ノ模式圖; a, β , 常態ノ枝ノ出ル場所; d , 背面ヨリスル枝ノ出ル場所; e, e' , 同上ノ腹面ヨリスルモノ.—9: 「ステイキジア」ノ背面, $\frac{220}{1}$.—10: 同上ノ腹面ニシテ, 蓋細胞ヲ示ス; ab ノ線ハ四分胞子囊ヲ含メル部分ノ下方ノ境界ヲ示ス; $\frac{220}{1}$.—11: 枝ノ頂部ニシテ充分ニ生長シタル精子器ト其幼キモノ二個トヲ枝ノ背面ヨリ見タルモノ, $\frac{390}{1}$.—12: 精子器ノ初期; a , 枝ノ生長點, $\frac{350}{1}$.—13: 精子器, $\frac{220}{1}$.—14: 幼キ胎原, b , $\frac{600}{1}$.—15: 受精毛, c , ヲ有スル胎原, $\frac{600}{1}$.—16-17: 囊果, $\frac{54}{1}$.—18-19: 「ステイキジア」ノ背面ニシテ, 毛狀葉ノ基部ナル細胞ノ不規則ナル排列ヲナス狀ヲ示ス, $\frac{220}{1}$.



K. Okam. del.

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Hypnea variabilis Okam. n. sp. たちいばら.

Hypnea variabilis Okam. n. sp.

Nom. Jap.: *Tachi-ibara*.

PL. LVI.

Diagn.: Fronds erect, coespitose, not coalesced to each other, with fibrous roots, compressed, often slightly channelled, subterete in slender branches, virgately branched with ramifications between pinnate and dichotomous, elongating upward into slender branches or ending in thicker and bluntish apices, patent, rarely naked, usually furnished all around branches with non-constricted spinose ramuli which here and there elongate into ordinary ones. Sori formed around the middle and lower portions of ramuli. Cystocarps globular and sessile.

Hab.: Perhaps below the low water-wark. Owashi (Prov. Kii), Shinoshima (Prov. Mikawa), Enoshima and Kamakura (Prov. Sagami), Prov. Boshyū, Prov. Kadzusa, Yotsukura (Prov. Iwaki).
Fruits: summer.

Descrip.: Fronds coespitose, erect, not coalesced to each other, often froming a roundish mass, standing with fibrous roots virgately branched with the ramification between pinnate and dichotomous. In some fronds, main-branches are more pinnate, in others more dichotomous with thicker branches disposed in pinnate manner, and still in others dichotomo-decompound. Thus, the from of frond is very variable in appearence. Branches are patent and not constricted at their origin, rarely naked, usually more or less furnished with teeth-like spines all around the sides, often in dense aggragations, which



here and there grow up into longer or shorter branches carrying similar non-constricted spines. In thinner and weaker forms, which perhaps grow in calm places, branches are often very fine and thread-like (Fig. 4). Fronds become a little broader toward the middle portion rising from more or less narrowed base and terminate in bluntish apices or branches often elongate into slender ones. Plants attain the height of 4-13 cm. with the breadth of 1.5-3 mm. in wider portions. Fronds are compressed, except the slender branches which are almost cylindrical and broader portions are often slightly channelled.

Sori are formed around the basal or middle swollen portion of spinose ramuli. Cystocarps are globular and sessile, many formed along the sides of ramuli. Substance is rigid cartilaginous and is rather stouter than the majority of our species of the genus.

Remarks: The present species is to be placed in the vicinity of *Hypnea spicifera* (Suhr) Harv. under the section *Virgatae*.

PL. LVI. Fig. 1-4: different forms of fronds of *Hypnea variabilis* Okam n. sp. in nat. size.—Fig. 5: frond bearing cystocarps, $\frac{1}{1}$.—Fig. 6: growing apex of the frond, $\frac{390}{1}$.—Fig. 7: cross-section of the frond, $\frac{8}{1}$.—Fig. 8: portion of a cross-section of the frond, $\frac{54}{1}$.—Fig. 9: portion of a longitudinal section of the frond with axial filaments, ϵ , $\frac{220}{1}$.—Fig. 10: branch bearing cystocarps, $\frac{8}{1}$.—Fig. 11: vertical longitudinal section of a cystocarp, $\frac{54}{1}$.—Fig. 12: portion of the nucleus and pericarp, $\frac{220}{1}$.—Fig. 13-14: branches bearing tetrasporic sori, $\frac{12}{1}$.—Fig. 15-17: cross-sections of different parts of different branches bearing sori; Fig. 15-16: $\frac{54}{1}$; Fig. 17: $\frac{42}{1}$.—Fig. 18: portion of a sorus, $\frac{220}{1}$.

Hypnea variabilis Okam. 新種.

たちいばら 岡村 稱.

第 LVI 圖版.

Hypnea (いばらのゝ屬)ノ性質ハ第一卷第二集 47 頁ニ在リ.

性質. 體ハ直立,叢生シ,絲狀根ヲ以テ立チ,枝々互ニ癒着スルコトナク,扁壓ニシテ往々輕ク溝狀ニ反リ,細キ枝ハ稍圓柱狀ヲナシ,羽狀様叉狀ニシテ枝多ク,上部ハ細長ク伸ルカ或ハ稍太キ鈍頭ニ終リ,廣開シ,稀ニ小枝ナク,通常枝ノ周圍ニ基部ノクビレザル棘狀小枝ヲ存シ,小枝ハ往々常態ノ枝ニ伸ブ.四分孢子群ハ棘狀小枝ノ中央並ニ下部ノ周圍ニ形成セラル. 囊果ハ球狀ニシテ無柄ナリ.

產地: 多分低潮線以下ニ生ズルナルベシ. 紀州尾鷲,三河篠島,江ノ島,鎌倉,房州,上總,磐城四倉. 果實: 一夏季.

記載: 體ハ直立,叢生シ,纖維狀根ヲ以テ立チ,往々團塊ヲ作り,枝互ニ癒着スルコトナク,枝條多クシテ羽狀ト叉狀トノ中間ノ如ク分岐ス. 或標本ニテハ主枝ハ専ラ羽狀ヲナシ,他ノモノニテハ多ク叉狀ニ分レ其稍太キ枝ハ羽狀ヲナス,更ニ他ノ場合ニテハ複叉狀ナリ. スノ如クナルヲ以テ體ノ形狀ハ極メテ變化シ易シ. 枝ハ廣開シ,基部クビレズシテ,罕ニハ小枝ヲ存セザルコトアルモ,通狀各方面ニ齒狀ヲナセル小枝ヲ多少トモ存シ,又往々密ニ集リテ出ルコトアリ,而シテ小枝ハ其處此處ニ長キ若クハ短キ枝ニ伸長シ,其枝ハ又同様ナル基部ノクビレザル小枝ヲ存ス. 體質薄クシテ軟弱ナル類ニアリテハ,枝ハ往々甚シク細クシテ絲狀ナルコトアリ(第四圖)

此ノ如キ類ハ多分浪靜カナル處ニ生ズルモノナルベシ。體ハ多少基部ノ方ニ細ク、中央部ノ方ニ廣クシテ鈍頭ニ終ルコトアリ、或ハ枝ハ往々長ク伸ビテ細クナルコトアリ。體ノ高サハ 4-13 cm. ニシテ幅ハ廣キ所ニテ 1.5-3 mm. アリ。體ハ扁壓ニシテ廣キ部分ハ往々稍溝狀ヲナシ、細キ枝ハ殆ド圓柱狀ヲナス。

四分孢子群ハ棘狀小枝ノ基部若クハ中央部ノ膨レタル部分ノ周圍ニ形成セラル。囊果ハ球狀ニシテ柄ナク、小枝ノ周圍ニ多數ニ形成セラル。質ハ稍硬キ軟骨質ニシテ此屬ニ屬スル本邦産ノ各種ヨリモ稍硬キヲ覺ユ。

備考：本種ハ *Virgatae* ト云ヘル區分ノ中ニ入ルベキモノニシテ *Hypnea spicifera* (Suhr) Harv. ニ近ク置カルベキモノナリ。

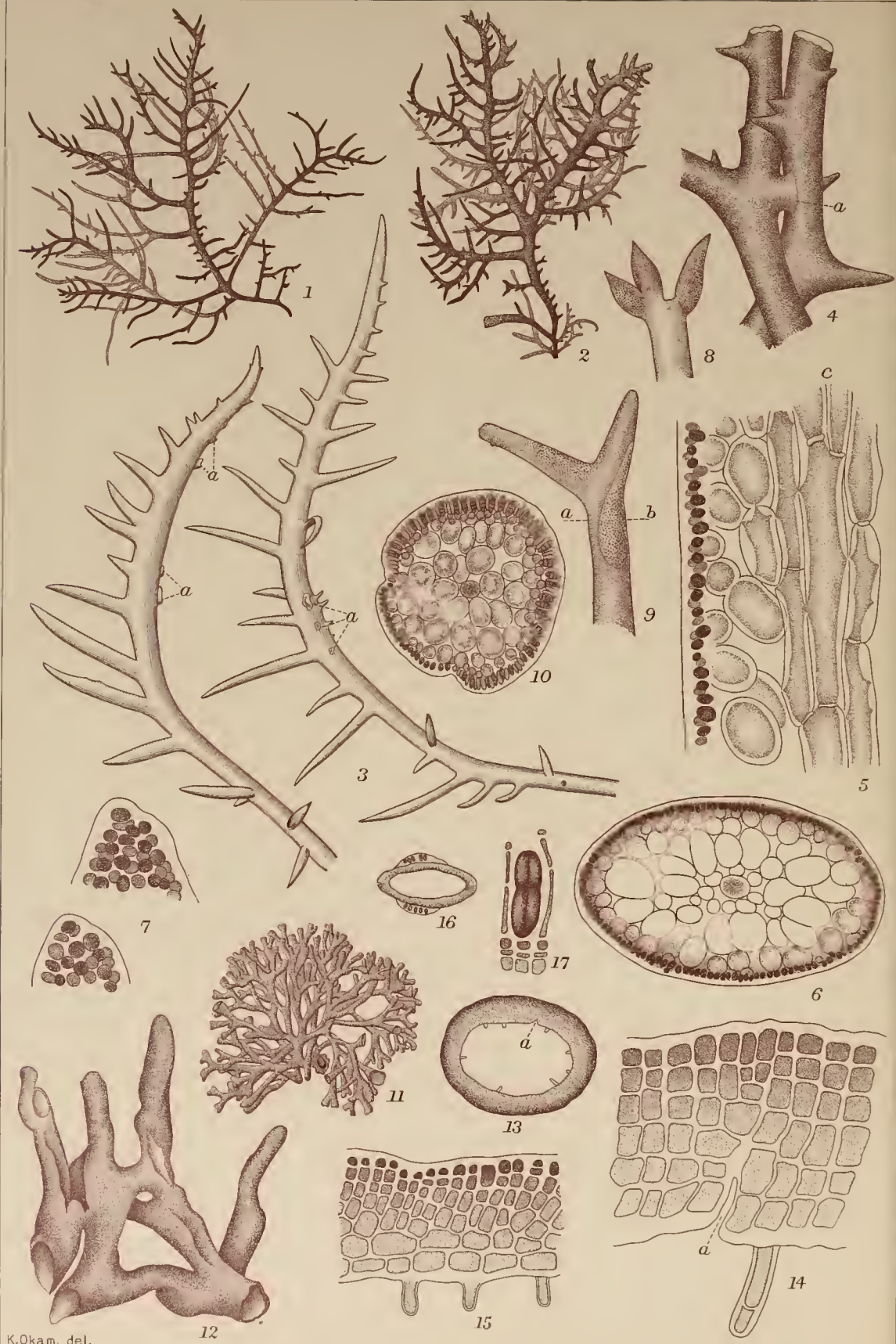
第 LVI 圖版. 1-4: *Hypnea variabilis* Okam., たちいばら, ノ體ノ種々ナル形狀, $\frac{1}{2}$ —5: 囊果ヲ有スル體, $\frac{1}{1}$ —6: 成長點, $\frac{390}{1}$ —7: 體ノ横斷面, $\frac{8}{1}$ —8: 體ノ横斷面ノ一部, $\frac{54}{1}$ —9: 體ノ縦斷面ノ一部ニシテ、中軸部ヲ形成スル絲狀細胞, c , ヲ示ス, $\frac{220}{1}$ —10: 囊果ヲ有スル枝, $\frac{8}{1}$ —11: 囊果ノ縦斷面, $\frac{54}{1}$ —12: 仁ト果皮トノ一部, $\frac{220}{1}$ —13-14: 四分孢子群ヲ有スル枝, $\frac{12}{1}$ —15-17: 四分孢子群ヲ有スル種々ナル枝ノ各部ノ横斷面; 15-16: $\frac{54}{1}$; 17: $\frac{42}{1}$ —18: 四分孢子群ノ一部, $\frac{220}{1}$.

Hypnea Saidana Holmes.

Nom. Jap: *Saida-ibara*.

PL. LVII, Fig. 1-10.

Hypnea Saidana Holmes New Marine Algae from Japan (Journ. Linn. Soc., Bot. Vol. XXXI, p. 256, Pl. XI, f. 3); De Toni, Syll.



K.Okam. del.

7 12 1 3 11 16 15 13 10 17 2 9 8 14 6 4 5
Hypnea saidana Holmes さいだいはら Fig. 1-10.
Peyssonnelia involvens Zanard. くだいわか Fig. 11-17.

Alg. IV, p. 483; Okam. Alg. Jap. Exsic. Fasc. II, No. 63 (岡村, 日本海藻標品, 第二帙 63 號); 岡村, 日本藻類名彙 p. 42.

Frond forms a roundish mass with branches intricately attached at points to each other. Main branches are flexuose, more or less dichotomous with alternate branches which are mostly curved and loaded with short, secund, very patent, thorn-like ramuli. All the branches are compressed and taper to sharp point rising with not-constricted bases. Plant attains the height of 6-10 cm. with the breadth of 1-2 mm. in broader parts. Sori are formed around the mostly basal swollen parts of ramuli. Substance is slightly cartilaginous when fresh, but soon softens changing the colour at the same time from blood-red to yellowish-red.

Hab.: On rocks between tide marks. Prov. Shima, Enoshima and Misaki (Prov. Sagami), Prov. Boshyū, Onahama (Prov. Iwaki).
Sori:—spring.

Remarks: To me the substance does not seem to be “rather stouter than the majority of species of the genus” as Holmes states.

PL. LVII, Fig. 1-10. Fig. 1-2: two pieces of fronds of *Hyphnea Saidana* Holmes, $\frac{1}{1}$.—Fig. 3, two pieces of branches; α , α , points where branches fuse to each other, $\frac{3}{1}$.—Fig. 4: portions of branches uniting to each other at α , $\frac{10}{1}$.—Fig. 5: portion of a longitudinal section of branch with axial cell, c , $\frac{220}{j}$.—Fig. 6: cross-section of a branch cut near the apex, $\frac{390}{1}$.—Fig. 7: two apical portions of branches, $\frac{390}{1}$.—Fig. 8-9: ramuli bearing sori, $\frac{8}{1}$.—Fig. 10: cross-section of the sorus cut through the plane $a\ b$ of Fig. 9, $\frac{54}{1}$.

Hypnea Saidana Holmes.

さいだいばら 岡村 彌.

第LVII圖版, 1-10圖.

體ハ球狀ノ團塊ヲナシ, 枝ハ錯綜シテ諸所ニテ互ニ癒着シ, 之ヲ分離セントセバ多少枝ヲ損傷セザルベガラズ. 主枝ハ紆曲シ, 多少叉狀ニシテ枝ヲ互生シ, 枝ハ概テ彎曲シ, 小枝ヲ存ス; 小枝ハ短クシテ甚シク廣開シ殆ド水平ニ出デ, 偏在シ, 棘狀ナリ. 枝ハ總テ扁壓ニシテ基部細カラズ, 枝端細尖ナリ. 體ハ高サ6-10 cm. ニ達シ, 幅ノ廣キ所ニテ1-2 mm. アリ. 四分孢子群ハ概テ小枝ノ基部ノ膨レタル部分ノ周圍ニ形成セラル. 質ハ新鮮ナルトキハ稍軟骨質ナレドモ忽チ軟クナリ, 同時ニ血紅色ヨリ黃赤色ニ變ズ.

產地: 潮線間ノ岩石ニ生ズ. 志摩, 相州江ノ島及三崎, 房州, 磐城小名濱. 四分孢子群: 一春季.

備考: Holmes 氏ハ本種ノ質ヲ以テ此屬中ノ多數ノモノヨリ稍丈夫ナリト記セドモ, 予ヲ以テ見レバ左程ニハ思ハレズ, 前ニ記シタル *Hyp. variabilis* ノ方遙ニ體質堅牢ナリ.

第LVII圖版, 1-10圖. 1-2: *Hypnea Saidana* Holmes, さいだいばら, ノ體ノ二片, $\frac{1}{1}$.—3: 枝; a, a , 枝ノ互ニ癒着スル所, $\frac{3}{1}$.—4: a ノ所ニテ枝ノ互ニ癒着スルヲ示ス, $\frac{10}{1}$.—5: 枝ノ縱斷面ノ一部ニシテ, c , ハ中軸ナリ, $\frac{220}{1}$.—6: 頂端ニ近ク斷リタル枝ノ橫斷面, $\frac{390}{1}$.—7: 枝ノ成長點, $\frac{390}{1}$.—8-9: 四分孢子群ヲ有スル小枝, $\frac{8}{1}$.—10: 第9圖ノ $a b$ ト記シタル部分ヲ橫斷シタルモノ, $\frac{54}{1}$.

***Peyssonnelia involvens* Zanard.**

Nom. Jap.: *Kuda-ivanokazwa*.

PL. LVII, Fig. 11-17.

Peyssonnelia involvens Zanard. Plant. Mar. Rubr. p. 269, tab. IX, f. 2; De Toni Syll. Alg. IV, p. 1703.

Frond crustaceous, thin and soft leathery, with one or rarely two-celled root-fibres, thickly incrustated beneath the cells forming the basal decumbent layer and is tubular by the union of the both edges covering round the substratum on which the plant lies.

Hab: Cast up ashore (probably on rocks near high tide a little below high-tide). Koshun (Taiwan) col. by K. Miyake. Sorus:—January (Taiwan).

Remarks: Only one specimen before us. The frond is sub-cylindrical and tubular taking irregularly dichotomo-decompound sub-flabellate shape, but we can not conceive that the plant comes out always in the same appearance. We would suppose that the tubular form is the result of the decay or disappearance of some dichotomous frond on which the plant grew.

PL. LVII, Fig. 11-17. Fig. **11**: frond of *Peyssonnelia involvens* Zanard. $\frac{1}{1}$.—Fig. **12**: portion of the frond, $\frac{5}{1}$.—Fig. **13**: cross-section of a branch, decalcified; *a*, place where two edges of the frond have united., $\frac{5^4}{1}$.—Fig. **14**: portion marked *a* in Fig. 13, magnified; the whole thickness of the lower wall of the cells forming the basal decumbent layer becomes visible after decalcification, $\frac{390}{1}$.—Fig. **15**:



portion of the cross-section of frond, decalcified, $\frac{220}{1}$.—Fig. 16: sori, $\frac{12}{1}$.—Fig. 17: tetrasporangium and paraphyses, $\frac{220}{1}$.

Peyssonnelia Decaisne.

いわのかわ屬.

SQUAMARIEAE, SQUAMARIACEAE.

スクアマリア科, スクアマリア亞科.

體ハ扁平, 葉狀, 始メハ殼狀ニ展ガリ, 全裏面ヨリ多數ノ毛狀根ヲ出シテ他物ニ固着シ, 後唯一小部分ノミ若クハ或場所ノミニ限リテ他物ニ附着ス, 而シテ概チ一方ニ專ナル縁邊成長ヲナスニ依リテ各方面ニ多少澤山ニ分裂若クハ分岐シタル部分ヲ形成ス. 體ハ三層ヨリ成ル: 下層即チ基部ヲナス層ハ放射狀ニ列セル細胞列ヨリ成リ, 中層ハ此基部ノ層ヨリ直立セル若クハ多少斜ニ向上セル皮層細胞列ノ密ニ相集ルモノヨリ成リ, 其最外部ノ細胞相集リテ表皮層ヲナス, 而シテ時ニ根様絲ヲ交ユルモノアリ; 細胞間物質ハ強靱ニシテ, 時トシテハ, 體ノ下方若クハ全部ニ亘リテ石灰質ヲ存ス.——四分胞子囊ハ體ノ表面ニ點々ヲ成シテ多少隆起セル「チマセシア」ノ中ニ存シ, 十字様ニ分裂ス. 胎原列並ニ助細胞枝ハ諸所ニ點在セル雌性「チマセシア」中ニ存ス. 囊果ハ雌性「チマセシア」ノ形成セラレタル場所ニ於テ扁ク膨起セル疣ノ如ク成リテ體ノ表面ニ坐ス. 精子器及囊果ハ別々ノ個體ニ存ス.

10-20種アレドモ多クハ不充分ニ知ラントルモノニシテ諸所暖海ニ産ス. 模範種ハ *P. squamaria* (Gmelin) Decaisne ニシテ地中海及アドリア海ニ在リ. 本邦亦三四種ヲ産ス.——屬ノ名

ハ J. A. Peyssonnel 氏ノ名譽ノ爲ニ設ケタルニテ, 氏ハ海藻殊ニ石灰藻類ノ最初ノ學者ニシテ頗ル斯界ニ貢獻シタル人ナリ。

Peyssonnelia involvens Zanard.

くだいわのかわ 岡村 稔

第LVII圖版, 11-17圖.

體ハ殼狀ニシテ, 薄ク, 柔カキ草質ヲナシ, 一個細胞若クハ稀ニ二個細胞ヨリ成レル毛狀根ヲ存シ, 體ノ基部ナル下層細胞ノ下ニ於テ厚ク石灰質ヲ存ス; 而シテ他ノ物體上ニ付着シ之ヲ圍繞シテ成長スルニ當リ, 兩緣邊相接觸シ癒着シテ管狀ヲナス. 色ハ血紅色ナリ.

產地: 海濱ニ打揚ゲラレタリ(多分高潮線ニ近キカ或ハ僅ニ下ナル岩石上ニ付着セルモノナルベシ). 恒春(臺灣, 三宅驥一氏採). 四分孢子群: 一月(恒春).

分布: 紅海ニテ *Chondrococcus* ト混在シテ「ハイドロゾア」ノ體上ニ附着セリ (Zanard); 東部亞弗利加ノ Kikogwe (Schmitz).

備考: 今唯一個ノ標品アルヲ知ルノミ. 體ハ稍圓柱狀ニシテ管狀, 不規則ニ複叉狀ニ分岐シ扇狀ヲナセドモ, 常ニ必ズ同様ノ枝態ニテ生ズベシトハ思ハレズ, 而シテ其中空ニシテ管狀ヲナセル所以ノモノハ或叉狀ノ海藻アリテ其體上ニ本植物ノ附着シタルモノアリシガ, 後其海藻ノ枯死シタルカ又ハ他ノ原因ニテ消滅シタルニ依レルモノナルベシト考フルヲ至當ナリト思惟ス. 本植物ノ種類ヲ定ムルニ當リ參考トスベキ典籍少ナク, 又別ニ比較スベキ標本ナキヲ以テ果シテ此處ニ掲ゲタル種類ナルヤ否ヲ保セズト雖モ, 參考書ノ記

載スル所ト符合スル點少ナカラズ, 且分布ノ關係上ヨリ本種ナラント判定シタルモノナリ.

第LVII圖版, 11-17圖. 11: *Peyssonnelia involvens* Zanard., くだいわのかわ, ノ體, $\frac{1}{1}$.—12: 體ノ一部, $\frac{5}{1}$.—13: 枝ノ横斷面, 脱灰シタルモノ; *a*, 體ノ兩縁ノ癒着シタル所, $\frac{5+}{1}$.—14: 第13圖ノ*a*部ヲ廓大シテ示ス; 體ノ下部ノ細胞ノ下側ノ膜壁ハ石灰ヲ脱シ去リタル後全部ヲ露スヲ以テ其厚キコトヲ認ムベシ, $\frac{390}{1}$.—15: 體ノ横斷面ノ一部, 脱灰シタルモノ, $\frac{220}{1}$.—16: 四分胞子群, $\frac{12}{1}$.—17: 四分胞子ト「バラフキシス」, $\frac{220}{1}$.

Laurencia dendroidea J. Ag.

Nom. Jap.: *Kiburi-sozo*.

PL. LVIII.

Laurencia dendroidea J. Ag. Sp. Alg. II, p. 753; Id. Epicr. p. 650; De Toni Syll. Alg. IV, p. 787; Id. Phyc. Jap. Nov. p. 30; Hariot Alg. de Yokoska p. 225; Okam. Alg. Jap. Exsic. (岡村, 日本海藻標品) Fasc. I, No. 20; 岡村, 日本藻類名彙, p. 54.—*L. obtusa* var. *majuscula* Harv. Phyc. Austr. Syn. n. 309 b.—*L. vieillardii* Kuetz. Tab. Phyc. Vol. XV, t. 45, f. a-b?

Hab: On rocks between tide marks near high tide; Prov. Chikuzen, Owashi (Prov. Kii), Prov. Sagami, Prov. Boshyū.

PL. LVIII. Fig. 1 *a-b*: two fronds of *Laurencia dendroidea* J. Ag. in nat. state and size; *a*, the form of a frond exposed to the dash-ing of waves.—Fig. 2: portion of a branch, $\frac{5}{1}$.—Fig. 3: young



Laurencia dendroidea J. Ag. きぶりそゝ

ramulus viewed from above, $\frac{5}{1}^4$.—Fig. 4: outline of the longitudinal section of a ramulus, showing the central axis and hair-leaves, $\frac{5}{1}^4$.—Fig. 5: the apical cell and the central axis, $\frac{390}{1}$.—Fig. 6: lower part of the central axis, $\frac{220}{1}$.—Fig. 7: longitudinal section of a ramulus bearing tetrasporangia, $\frac{5}{1}^4$.—Fig. 8: tetrasporangium; a , infracortical cell carrying the tetrasporangium; a' , cover-cell; $\frac{220}{1}$.—Fig. 9: surface-view of cover-cells, a' , $\frac{220}{1}$.—Fig. 10: portion of a branch bearing cystocarps, $\frac{5}{1}$.—Fig. 11: vertical longitudinal section of a cystocarp, $\frac{5}{1}^4$.—Fig. 12: lower portion of the pericarp, $\frac{220}{1}$.—Fig. 13: young spores, $\frac{390}{1}$.

Laurencia Lamouroux 1813.

そぞ屬.

LAURENCIEAE, RHODOMELACEAE.

ふぢまつも科, そゝ亞科.

體ハ直立, 圓柱狀乃至扁壓, 各方面ヨリ若クハ兩縁ヨリ澤山ニ枝ヲ分チ, 多肉又ハ稍軟骨質ニシテ圓形—多角形ノ細胞ヨリ成ル。中軸ハ只枝ノ頂端附近ニノミ存シ, 種類ニヨリ多少長キ間之ヲ認ムベシト雖モ, 下方ニ至テハ特ニ中軸トシテ明ニ認ムベキモノナシ。頂細胞ハ早落性ノ毛狀葉ヲ以テ圍マレ頂端ニアル小サキ窪ミノ中ニ存ス(第45圖)。四分胞子囊ハ最末位ノ小枝ノ頂端ノ表面ニ近ク存シ, 其小枝ハ往々短ク或ハ特別ノ形狀ヲナス。精子器ハ卵形又ハ稍長味ヲ帶ビ往々複總狀ニ分岐セル精子器托ニ存シ, 枝端ノ窪ミノ往々大ニシテ且盤狀ニ開展セル部分ニ埋在ス。囊果ハ上部ノ小枝ノ表面ニ坐ス。



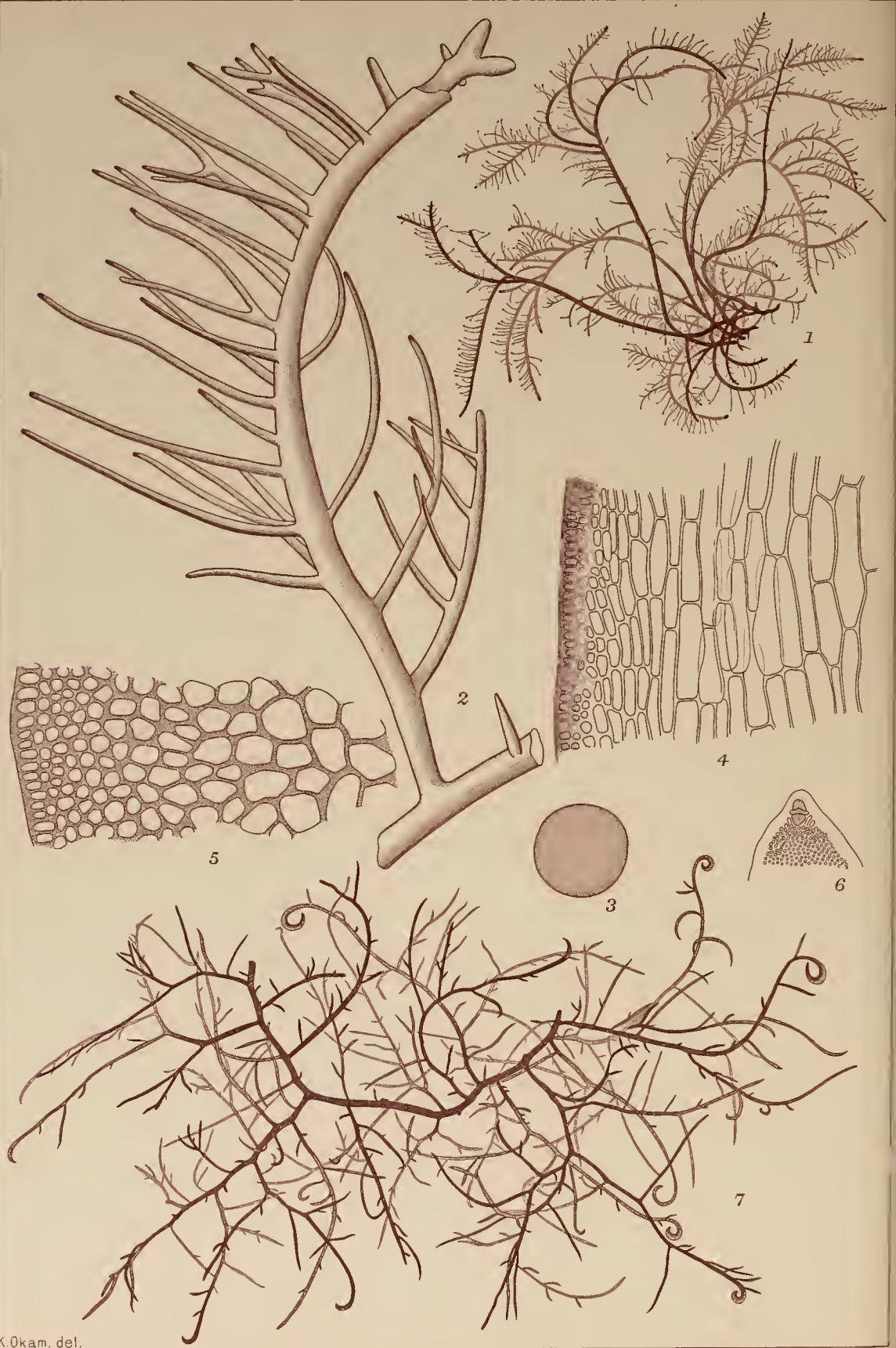
諸所暖海ニ産シ極メテ變化シ易ク、各種ノ異同ヲ區別スルコト容易ナラザルモノニシテ種類ハ50-60程アリ。模範種ハ *L. obtusa* (Hudson) Lamouroux ニシテ英國ノ大西洋沿岸ヨリ「カナリー」諸島ニ亘リ、地中海及比亞弗利加ノ東岸ザンジバールニ至ル間並ニ我邦等ニ産ス。——屬ノ名ハ佛國ノ博物學者 De la Laurencie 氏ノ名譽ノ爲ニ設ケタルナリ。屬ノ和名をいハ出雲ノ方言ニ此屬ノ種類ヲ呼ブモノアルヲ以テセリ。

Laurencia dendroidea J. Agardh.

きぶりそい。 岡村 稔。

第LVIII圖版。

體ハ樹狀ニシテ太ク堅牢ナル莖ヲ有シ、各方面ニ羽狀ニ分枝シ、大ナル枝ハ多少正シク對生スレドモ往々輪生スルコトアリテ四十五度程ノ角度ヲナシテ出デ、下部ノ枝ハ長ク、漸次上方ニ短キヲ以テ繖房狀ヲナス、而シテ枝又同様ニ分枝スルヲ以テ全體ノ枝態複總狀ヲナス。枝ノ下部ハ裸出スレドモ漸次上方ニ小枝ヲ存スルコト密ニシテ、各方面ヨリ互生シ或ハ所々輪生スルモノアリ、而シテ小枝ハ又枝ノ間々ヨリ出デ單條又ハ分枝ス。枝ハ莖ヨリモ細ク頂部ノ方ニ漸次太ク鈍圓ナリ、而シテ小枝モ亦同様ニシテ各部圓柱狀乃至棍棒狀ヲナス。體ノ高サハ10-15 cm. ニシテ枝ハ4-7 cm. 長ク、莖ノ太サ2-3 mm. アリ。四分孢子囊ハ小枝ノ頂端ニ集リ生ズ。囊果ハ小枝ノ頂端ニ近キ所ノ表面ニ卵圓形ヲナシテ坐ス。精子器ヲ有スル小枝ハ多ク棍棒狀ナリ。色ハ幼キ時ハ紫紅色ナレドモ漸次老成スルニ隨テ綠色ヲ帶ブルニ至ル。質ハ多肉ニシテ軟骨質ナリ、乾燥スルトキハ、老者ハ紙ニ附着セズ。



K.Okam. del.

⁵ *Gelidium rigidum* (Vahl) ² Grev. しまてんぐさ Fig. 1-6. ⁴ ⁷ ¹ ⁶
Hypnea musciformis (Wulf.) Lamour. かぎいばらのり Fig. 7.



Laurencia concinna Mont. そぶのはふ Fig. 1-6.
Hypnea musciformis (Wulf.) Lamour. かぎいばらのり Fig. 7-11.

產地：高潮線ニ近キ岩石ニ生ズ 筑前, 紀州尾鷲, 相州, 安房, 朝鮮 (J. Agardh).

分布：熱帶部ノ海ニ産ス；太西洋(ブラジル)；太平洋(ニウフホルランドノ西部及熱帶部)並ニ朝鮮.

第LVIII圖版. 1 *a-b*: *Laurencia dendroidea*, J. Ag., きぶりそい, ノ二個體, 自然大; *a*, 波浪ノ衝ニ當テ生ズル普通ノ形態.—2: 枝ノ一部, $\frac{5}{1}$.—3: 若キ小枝ヲ上ヨリ見タルモノ, $\frac{5.4}{1}$.—4: 小枝ノ縦斷面ノ輪廓ニシテ中軸ト毛狀葉トヲ示ス, $\frac{5.4}{1}$.—5: 頂細胞及中軸, $\frac{3.4.0}{1}$.—6: 中軸ノ下部, $\frac{2.2.0}{1}$.—7: 四分胞子囊ヲ有スル小枝ノ縦斷面, $\frac{5.4}{1}$.—8: 四分胞子囊; *a*, 皮下細胞ニシテ其枝トシテ四分胞子囊ノ母細胞ヲ有スルモノ; *d*, 蓋細胞; $\frac{2.2.0}{1}$.—9: 蓋細胞 *d* ヲ表面ヨリ見タルモノ; $\frac{2.2.0}{1}$.—10: 囊果ヲ有スル枝ノ一部, $\frac{5}{1}$.—11: 囊果ノ縦斷面, $\frac{5.4}{1}$.—12: 果皮ノ下部, $\frac{2.2.0}{1}$.—13: 幼キ胞子, $\frac{3.9.0}{1}$.

Gelidium rigidum (Vahl) Grev.

Nom. Jap.: *Shima-tengusa*.

PL. LIX, Fig. 1-6.

Gelidium rigidum (Vahl) Grev., *Mont. Cuba* p. 45; J. Ag. Sp. Alg. II, p. 468; Id. Epicr. p. 548; De Toni Syll. Alg. IV, p. 149; 岡村, 日本藻類名彙 p. 22.—*Fucus rigidus* Vahl in *Naturh. Sellsk. Skr. V*, 2, p. 46.—*Fucus spinaeformis* Lam. Diss. p. 77, t. 36, f. 3-4.—*Gelidium spiniforme* Lmx. Essai p. 41; Bry Coqu. p. 161.—*Fucus corneus* var. *spinaeformis* Turn. Hist. Fuci IV, p. 146.—*Echino-caulon spinellum* Kuetz. Phyc. Gener. p. 406; Id. Sp. Alg. p. 762; Id.

Tab. Phyc. XVIII t. 38, d-e; J. Ag. Sp. Alg. II, p. 478.—*Echinocaulon ramelliferum* Kuetz. Tab. Phyc. XVIII, p. 14, t. 39.—*Echinocaulon rigidum* Kuetz. Tab. Phyc. XVIII, t. 40, f. 1.

Hab: Ogasawara Isl. (Bonin Isl.), Riu-kiu Isl., Ishigaki Isl. (Riukiu), Pref. Kagoshima.

PL. LIX. Fig. 1-6. Fig. 1: sterile fronds of *Gelidium rigidum* (Vahl) Grev., $\frac{1}{1}$.—Fig. 2: portion of a branch, $\frac{7}{1}$.—Fig. 3: cross-section of the stem (about 1 mm. in diam.), $\frac{23}{1}$.—Fig. 4: portion of the longitudinal section of a branch, $\frac{230}{1}$.—Fig. 5: portion of the cross-section of a branch, $\frac{390}{1}$.—Fig. 6: apex of a branch showing the apical cell, $\frac{390}{1}$.

Gelidium rigidum (Vahl) Grev.

しまてんぐさ 岡村 稱

第LIX圖版, 1-6圖.

體ハ扁壓ニシテ兩縁ニ薄ク, 下部蟠屈錯綜シテ岩石ニ附着シ, 直立又ハ傾斜シ, 不規則ニ三四回羽狀ニ分岐シ枝ハ概テ灣曲ス. 小羽枝ハ錐ノ如ク又ハ絲狀ニシテ長ク, 圓柱狀, 兩縁ヨリ或ハ各方面ヨリ出デ往々偏生ス. 枝及小枝ノ頂端ハ腺ノ如ク少シク膨レタリ. 四分胞子囊アル小羽枝ハ單條, 棍棒狀ニシテ, 稍膨レタル頂端下ニ之ヲ生ズ. 體ノ高サ7-10 cmニシテ莖ノ太サ1 mm. アリ. 色ハ暗鉛色ナレドモ, 日光ニ直射サル、所ニアルモノハ稍白色又ハ綠色ヲナシ, 枝端ハ總テ焦ゲタル如ク黑色ヲナス. 質ハ軟骨質ニシテ硬ク紙ニ附着セズ.

產地: 小笠原島, 琉球諸島, 石垣島, 鹿兒島縣下.

分布：太西洋(アンチルス諸島, ブラジル), 紅海及印度洋(マスカレン, セーロン, 印度), 太平洋(マリアナ群島, トード島).

備考：典籍ニハ體ハ扁壓ニシテ兩縁ニ薄シト記シアルヲ以テ, 本植物ハ圓柱狀ニシテ之ト異ナルガ如シ; 然レドモ各熱帶ノ産ハ往々稍圓柱狀ノ如ク記サレタルモノナキニアラザルヲ以テ其差ノ如キハ敢テ異トスルニ足ラザルモノトス.

第LIX圖版, 1-6圖. 1: *Gelidium rigidum* (Vahl) Grev., しさてんぐさ, ノ實ナキ體(小羽枝ノ先端膨レタル如クナルハ圖版ノ誤ナリ)—2: 枝, $\frac{7}{1}$.—3: 莖ノ横斷面(約1 mm. 太シ), $\frac{22}{1}$.—4: 枝ノ縦斷面ノ一部, $\frac{220}{1}$.—5: 枝ノ横斷面ノ一部, $\frac{390}{1}$.—6: 枝ノ成長點, $\frac{390}{1}$.

Hypnea musciformis (Wulfen) Lamx.

Nom. Jap.: *Kagi-ibaranori*.

PL. LIX, Fig. 7; PL. LX, Fig. 7-11.

Hypnea musciformis (Wulf.) Lamouroux Essai p. 43; Kuetz. Sp. Alg. p. 758; Id. Tab. Phyc. XVIII, t. 19, f. a-e; J. Ag. Sp. Alg. II, p. 442; Id. Epicr. p. 561; Ardiss. Phyc. Medit. I, p. 281; Hauck Meeresalg. p. 188, f. 81; Farlow Mar. Alg. of New England p. 156; Hariot Liste d. Alg. Mar. Yokoska p. 223; Martens Preus. Exped. n. Ost-Asien p. 118; Heydr. Alg. v. Riu-kiu-Inseln p. 103; De Toni Phyc. Jap. Nov. p. 28; Id. Syll. Alg. IV, p. 472; Okam. Alg. Jap. Exsic. No. 14 (岡村, 日本海藻標品 14 號); 岡村, 日本藻類名彙 p. 40.—*Fucus musciformis* Wulf. in Jacq. Collect. III. p. 154, t. 14, f. 3; Turn. Hist. Fuci t. 127.—*Hypnophycus musciformis* Kuetz. Phyc.

gener. t. 60, f. IV.—*Hypnea Rissoana* J. Ag. Alg. Medit. p. 150; Id. Sp. Alg. II, p. 448; Id. Epicr. p. 563; Kuetz. Sp. Alg. p. 758; Id. Tab. Phyc. XVIII, t. 19, f. fi.—*Hypnea denudata* Kuetz. Tab. Phyc. XVIII, p. 9, t. 21, f. II.

Hab: Often entangled on the branches of *Sargassum* below the low water-mark. Prov. Tosa, Hachijō Isl., Prov. Sagami, Prov. Bōshyu, Prov. Kadzusa; Riukiu (Kuroiwa, Heydr.).

Remarks: The present plant is usually found washed ashore in sheltered places after a heavy blow, where it usually occurs forming a very large, intricately twisted roundish mass. Our plant seems to be larger, thicker and firmer than the European plant, and the substance is subcartilaginous, not adhering to paper in drying. With us cystocarps have not been seen and I am in doubt whether the plant will not multiply by the division of frond.

PL. LIX. Fig. 7. portion of the frond of *Hypnea musciformis* (Wulf.) Lamour., disentangled from an intricate mass, $\frac{1}{1}$.

PL. LX, Fig. 7-11. Fig. 7: a branch, $\frac{3}{1}$.—Fig. 8: cross-section of a branch, $\frac{5}{1}$.—Fig. 9: cross-section of an inrolled portion of branch; a , the inner; b , the outer side, $\frac{1}{1}$.—Fig. 10: cortical layer of the portion marked b in Fig. 9 a , $\frac{2}{1}$.—Fig. 11: cortical layer of the portion marked a in Fig. 9, $\frac{2}{1}$.

Hypnea musciformis (Wulf.) Lamour.

かぎいばらのり 岡村 稔

第 LIX 圖版, 7 圖; 第 LX 圖版, 7-11 圖.

體ハ叢生シ、一ケ所ヨリ澤山ノ體ヲ房々ト生ジ、10-15 cm 乃至夫以上長シ。體ハ極メテ枝多ク分岐シ、枝ハ下部ノモノ長

ク、上部ノモノ漸次短クシテ、各皆下部ノ方ニハ小枝ヲ存スレドモ、頂部ノ方ニハ之ヲ欠キ、頂端ノ下著シク膨レテ鈎狀ニ屈曲シ、其部ハ概テ小枝ヲ存セザレドモ、外側ニノミ之ヲ有スルモノアリ。小枝ハ枝ノ下部ニアリテ各方面ヨリ出デ、殆ド45°ノ角度ニテ開キ、概テ單條ニシテ上下兩端ニ少シク細シ。四分孢子ヲ有スル體ニテハ小枝ハ實ナキモノヨリハ密ニシテ、基部ハ細クシテ孢子ナク、其少シク上ノ所ニ孢子ヲ藏シテ肥大シ、上部ハ孢子ナクシテ尖細ナリ。囊果ヲ有スルモノニアリテハ外觀甚シク異ナリ、小枝ハ鹿ノ角ノ如ク複叉狀ヲナシテ枝ノ周圍ヨリ出デ、小枝ヨリ分レタル末位ノ小枝ハ基部細カラズシテ細尖ナリ。色ハ褐色ニシテ；質膜質乃至軟骨質ナリ。

產地：低潮線ニ近クほんだわら類ノ枝ニ卷絡ス。土佐八丈島、相模、安房、上總、琉球慶良間(黒岩氏, Heydrich)。

分布：地中海及アドリアチック海；太西洋熱帶部(スペイン、カナリー島、西印度諸島並ニブラジル)；太平洋(オーストラリア及印度洋)。

備考：本植物ハ通常大浪ノ後ナド靜ナル灣ニ打揚ゲラレテ甚シク錯綜セル大ナル團塊ヲナスヲ見ル。上記ノ記載ハ參考書ニ依テ記シタレドモ、本邦產ノモノニシテ未ダ一ヶ所ヨリ叢生スルモノアルヲ見ズ；又體質モ膜質トアレドモ本邦產ノモノハ概テ軟骨質ナリ；而シテ本邦產ノモノハ之ヲ歐洲等ノモノニ比スルニ枝モ大ニシテ太ク強韌ナルモノ、如シ。鈎狀部ノ内側ト外側トヲ比スルニ内側ノ表皮細胞ハ第 II 圖ニ示ス如ク少シク伸ビテ宛モ根毛ノ幼者ノ如キ觀アリ；此ハ其卷絡ヲシテ充分確固タラシメンガ爲メノミ。我標品ニテハ未ダ囊果ヲ見ザレドモ或ハ上記スル如キ形體ノモノアルヤモ斗ラレズ、宜シク後日ノ研究ニ俟ツベキナリ；然レドモ

Farlow 氏ノ Mar. Alg. of New England p. 158 ニ記ス處ニヨレバ New England ノ海岸ニテハ此植物ニ囊果ヲ見タルコトナク、四分胞子ヲ有スル體ハ其之ナキモノヨリモ強大ニシテ枝端ノ鈎狀ヲナセルモノ多カラズトアリ。此記載ハ 1881 ノモノナレバ其頃囊果ヲ有スル體形ノ普通ノモノト少シク異ナルヲ以テ其之アルコトヲ知ラザリシヨリスノ如キ說ヲナシタルヤ否ヤヲ知ラズト雖モ我邦ノモノニ就テモ斯カルコトナキニアラズヤト思ハシムルモノアリ。或ハ其普通ニ鈎狀ヲナシテ現出スル體ハ實ヲ生ズルコトナクシテ枝ノ分離ニ依テ蕃殖スルモノニアラザルカ、尙ホ將來ノ考查ヲ要ス。

第 LIX 圖版, 7 圖. 7: *Hypnea musciformis* (Wulf.) Lamour., かぎいばらのり, ノ錯綜セル塊ヨリ一部游離シタルモノ, $\frac{1}{1}$.

第 LX 圖版, 7-11 圖. 7: 枝, $\frac{3}{1}$.—8: 枝ノ横斷面, $\frac{54}{1}$.—9: 鈎狀ニ屈曲セル部分ノ横斷面; *a*, 内側; *b*, 外側; $\frac{16}{1}$.—10: 鈎狀部ノ外側ノ皮部, $\frac{220}{1}$.—11: 同上ノ内側ノ皮部, $\frac{220}{1}$.

Laurencia concinna Mont.

Nom. Jap.: *Sozo-no-hana*.

PL. LX. Fig. 1-6.

Laurencia concinna Mont. Prodr. Phyc. Ant. p. 6; J. Ag. Sp. Alg. II, p. 764; Id. Epicr. p. 661; Kuetz. Sp. Alg. p. 857; Id. Tab. Phyc. XV, t. 69, f. a-b (sterile); Heydr. Alg. Riu-kiu Inseln p. 104; De Toni Syll. Alg. IV, p. 806.—*Laurencia calliptera* Kuetz. Tab. Phyc. XV, t. 69, f. c-d (sporifera).—*Laurencia complanata* Suhr, Kuetz. Sp. Alg. p. 857; J. Ag. Sp. Alg. II, p. 765.

Hab.: Probably near low tide. Riu-kiu Isl.; Amakusa Isl., Aburatsu (Prov. Hiuga), Prov. Tosa, Wagu (Prov. Shima).

Fruits: summer.

Remarks: In our plants we find sessile cystocarps formed on the side of pinnulae in ovate shape (Fig. 6).

PL. LX, Fig. 1-6. Fig. 1: sporiferous frond of *Laurencia concinna* Mont., $\frac{1}{1}$.—Fig. 2: branch, $\frac{3}{1}$.—Fig. 3: cross-section of a branch, $\frac{22}{1}$.—Fig. 4: tetrasporic branch, $\frac{3}{1}$.—Fig. 5: surface-view of a sporiferous pinnula showing cover-cells, α , $\frac{140}{1}$.—Fig. 6: branch bearing cystocarps, $\frac{12}{1}$.

Laurencia concinna Mont.

そいのはな 岡村種.

第LX圖版, 1-6圖.

體ハ扁壓ニシテ兩縁ヨリ羽狀ニ分岐シ、膜質ニシテ中肋ナク、稍三回羽狀ヲナシ、所々不規則ニ又ハ稍叉狀ニ分ル、所ナキニアラズ。枝ハ基部ヨリ正シク羽狀ヲナセドモ、羽枝ハ大小混在シ、其大ナル羽枝相並デ出ル時ハ下部ノモノハ長クシテ漸次上方ニ短ク、相隣接スル羽枝少シク相重疊ス。大ナル羽枝ハ線狀様披針狀ニシテ對生シ、下部細ク頂端或ハ細ク或ハ少シク太ク、下部ヨリ上部ニ至ルマデ小羽枝ヲ對生ス。小羽枝ハ其之ヲ有スル脊軸即チ羽枝ノ幅ト略ボ同ジキカ又ハ少シク短カキ程ノ長サヲ有シ、上部ニ細ク又ハ上部展ガリテ分裂ス、而シテ頂部ノ方ニ少シク厚クナレリ。羽枝ノ短クシテ小ナルモノハ恰モ小羽枝ノ如キ形狀ヲナス。體ノ長サ10-13 cm, ニシテ幅ハ2-3 mmアリ。四分胞子囊ハ小羽枝ノ頂部ニ生ジ、其部ハ概チ裂片ヲナス。囊果ハ卵形ニシテ小羽枝ノ

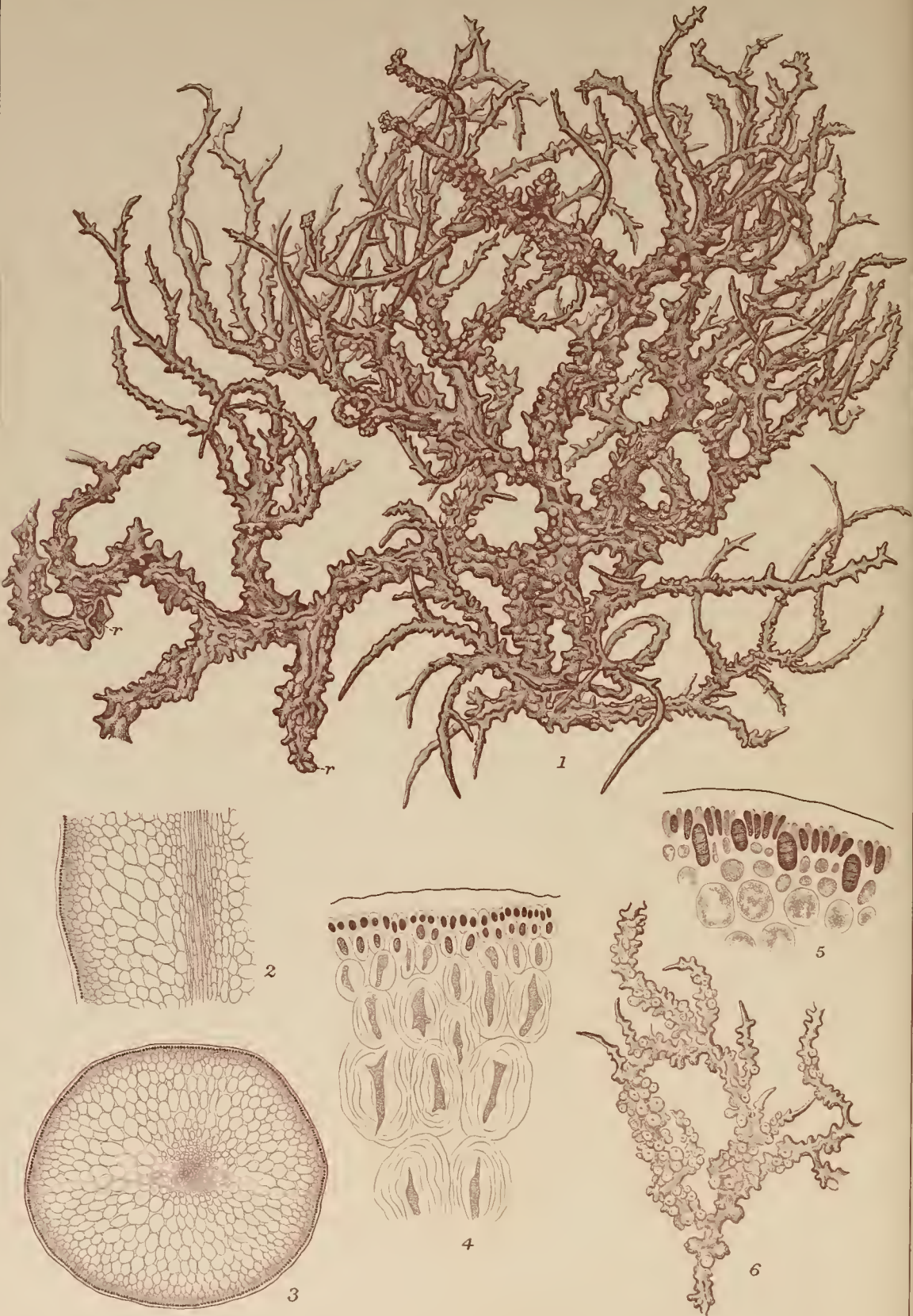
側面ニ坐ス。色ハ鮮紅色ニシテ美ナリ。質膜質ニシテ、乾燥スルトキハ紙ニ固着ス。

產地：低潮線以下ニ生ズ(九州ニテ潜水夫ヲシテ採ラシメタリ)。琉球(黒岩氏)、油津(日向)、半深(天草島)、土佐幡多郡三崎村(椎原氏)、和具村(志摩、橋本氏)。

分布：ニウフホルランド附近西部及熱帶部；トーレス海峽；ポートナタール。

備考：本種ハ *Laurencia* 屬中ノ Section *Pinnatifidae* 中ニ入ルモノニシテ其中 *L. pinnatifida* (Gmel.) Lamour. ト稱スルモノ本邦各地ニ産シ多少本種ニ類スト雖モ本種ニ於テ羽枝ノ相接近スルコト並ニ小羽枝ノ密ニ生ズルコト等ハ著シク後者ト區別スルニ足ル點ナリトス。和名そいのはなハ此屬中最モ美ナルモノナレバナリ。

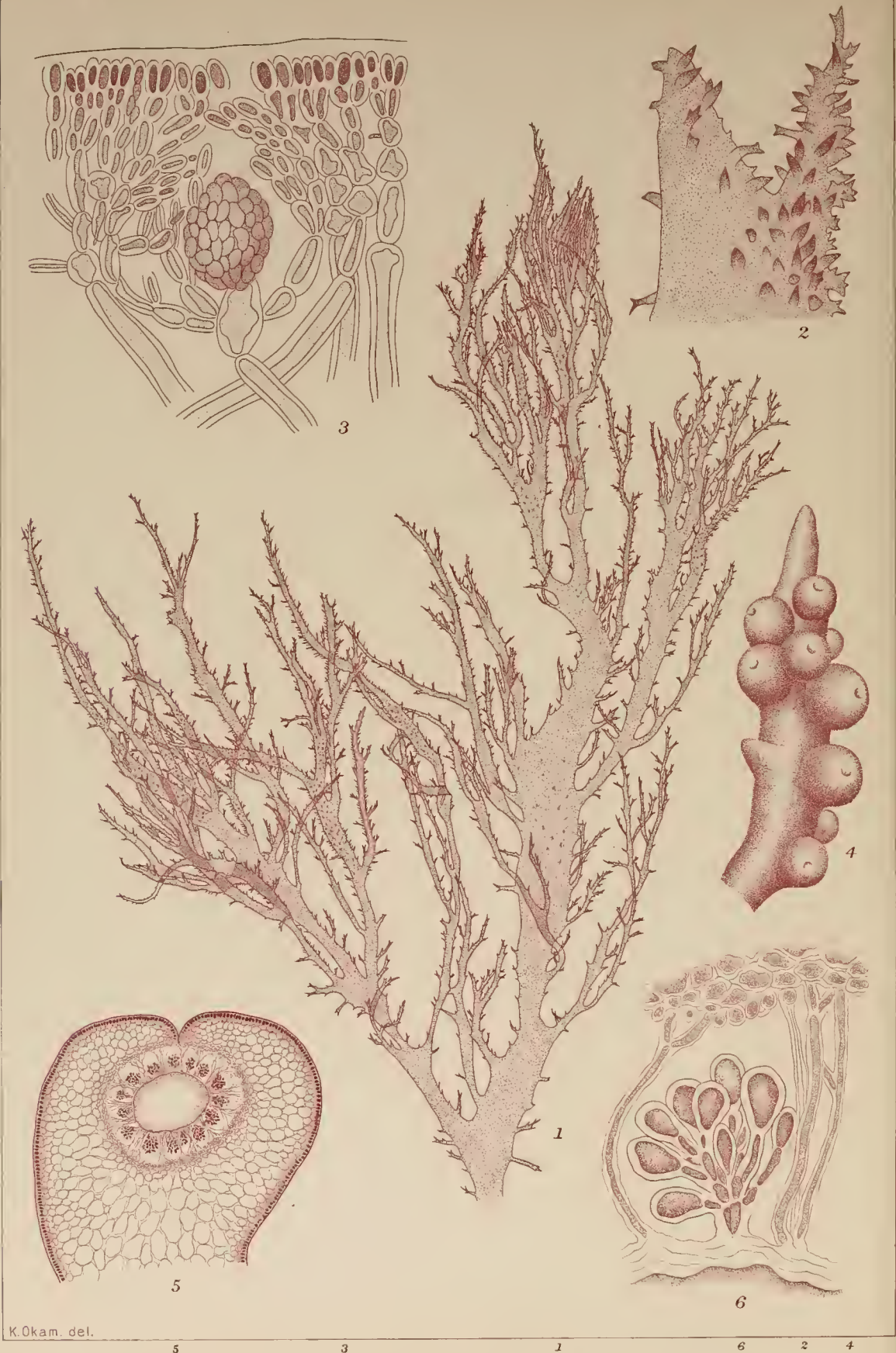
第 LX 圖版, 1-6 圖. 1: *Laurencia concinna* Mont., そいのはな, ノ四分胞子ヲ有スルモノ, $\frac{1}{1}$.—2: 枝, $\frac{3}{1}$.—3: 枝ノ横斷面, $\frac{3^2}{1}$.—4: 四分胞子ヲ有スル枝, $\frac{3}{1}$.—5: 四分胞子ヲ覆ヘル蓋細胞 *d* ヲ上ヨリ見タルモノ, $\frac{140}{1}$.—6: 囊果ヲ有スル枝, $\frac{1^2}{1}$.



K.Okam. del.

Eucheuma spinosum (L.) J. Ag. きりんさい





K. Okam. del.

Halymenia formosa Harv. つばれぐさ Fig. 1-3.
Eucheuma spinosum (L.) J. Ag. さりんさい Fig. 4-6.

Eucheuma spinosum (L.) J. Ag.

Nom. Jap.: *Kirinsai*.

PL. LXI; PL. LXII, Fig. 4-6.

Eucheuma spinosum (L.) J. Ag. Sp. Alg. II, p. 626; Id. Epicr. p. 601; Id. Anal. Algol. 1892, p. 122; Heydrich Beitr. Algenfl. v. Ost-Asien p. 293; De Toni Phyc. Jap. nov. p. 27; Id. Syll. Alg. IV, p. 369; Sonder Alg. d. trop. Austr. p. 60; Asken. Forschungsr. "Gazelle" Bot. p. 46; Okam. Alg. Jap. Exsic. Fasc. II. n. 59 (岡村, 日本海藻標品第二帙, n. 59); 岡村, 日本藻類名彙 p. 34.—*Fucus spinosus* L. *Mantissa* p. 313; Turn. Fuci t. 18.—*Sphaerococcus spinosus* Ag.; Kuetz. Sp. Alg. p. 777.—*Fucus muricatus* Gmel. Hist. Fuc. p. III, t. 6, f. 4.—*Gigartina spinosa* Kuetz. Tab. Phyc. XVIII, t. 7.—*Gigartina isiformis* Kuetz. Tab. Phyc. XVIII, t. 7?

Hab.: Riukiu, Taiwan.

PL. LXI. Fig. 1: sterile frond of *Eucheuma spinosum* (L.) J. Ag. with holdfasts, $r, r, \frac{1}{1}$.—Fig. 2: longitudinal section of frond, $\frac{33}{1}$.—Fig. 3: cross-section of frond, $\frac{33}{1}$.—Fig. 4: portion of a cross-section of frond, $\frac{220}{1}$.—Fig. 5: portion of a cross-section of the branch bearing cystocarps, $\frac{1}{1}$.

PL. LXII, Fig. 4-6. Fig. 4: cystocarps, $\frac{5}{1}$.—Fig. 5: vertical section of a cystocarp, $\frac{22}{1}$.—Fig. 6: portion of the nucleus with sterile filaments connecting the inner wall of pericarp; with the central cell, $\frac{390}{1}$.

PL. LXI—LXV, Oct., 1909.

Eucheuma J. Agardh.

き り ん さ い 屬.

SOLIERIEAE, RHODOPHYLLIDACEAE.

とさかのり科, ソリエリア亞科.

體ハ圓柱狀又ハ扁壓, 各方面ヨリ又ハ兩縁ヨリ分岐シ: 多少澤山ニ瘡狀突起ヲ存ス; 突起ハ短クシテ尖リ又ハ鈍頭ニシテ單條或ハ分岐ス. 體ハ全部細胞組織ニテ成ル: 髓部ハ長キ絲狀細胞ヨリ成リテ縦ニ密集ス; 皮部ハ圓形—多角形ノ細胞ノ密ニ集リタル組織ヨリ成リ, 細胞ハ内部ノ方ニハ漸次大ニシテ外部ノ方ニハ漸ク小ナリ.——囊果ハ概テ突起ノ側面ニ生ジ, 單獨又ハ數個集リ, 可ナリ著シク外部ニ隆起シ, 罕ニ突起ナキ枝ニ直接ニ隆起シテ散在セルモアリ. 仁ハ囊果アル部分ノ皮下層ノ組織ノ弛緩シタル腔所ニ存シ, 緩ク錯綜セル絲組織ヲ以テ圍繞サレ, 多數ノ中性ナル絲ヲ以テ數多ノ小仁ニ區劃サル; 而シテ中央ニ極メテ大ナル殆ド球狀ヲナセル一個ノ中心細胞アリテ, 其表面ヨリ極メテ多數ノ胞子絲ヲ各方面ニ放射狀ニ叢生ス; 胞子絲ハ屢々分岐セル絲ヨリ成リ密ニ束狀ニ集リ, 中性ノ絲組織ヲ以テ小仁ニ區劃セラル; 此胞子絲ノ頂端ノ細胞各一個ノ胞子トナル.

10-15 種アリテ暖海ニ産シ, 其多クハ印度洋ニ分布ス. 此處ニ圖説セル *Eucheuma spinosum* (L.) J. Ag. ハ其模範種ニシテ印度洋及モーリシアス島ニ産ス.

屬ノ名ハ Eu (能ク) ト cheuma (溶解スルモノ) トヨリ成ル、即チ能ク粘解スルヲ以テナリ. 和名きりんさいハ漢名麒麟菜ヲ其マ、採テ屬ノ名トシタルモノナリ.

Eucheuma spinosum (L.) J. Ag.

き り ん さい

第LXI圖版; 第LXII圖版, 4-6圖.

體ハ吸盤狀附着器ヲ以テ他物ニ附着シ少許ノ纖維狀根ヲ發出ス。體ハ圓柱狀ニシテ 12-22 cm 高ク 2-3 mm 太ク不規則ニ分岐ス。枝ハ廣開シ殆ド水平ニ出デ, 互生シ, 對生シ, 時ニ稍偏在シ, 或ハ叉狀ヲナス等種々ナリ而シテ往々長クシテ細ク尖リ, 周圍ヨリ疣狀突起ヲ出ス。枝ハ往々互ニ癒合スルコトアリ, 又他物ニ附着ス。突起ハ刺狀又ハ疣狀ニシテ圓錐形ヲナシ基部廣クシテ鈍頭ナリ, 稀ニ單獨ナレドモ, 概チ稍對生シ或ハ三個輪生シ, 又數多輪生スルコトアレドモ規則正シカラズ, 而シテ始メハ長サト太サト略ボ同ジケレドモ, 漸ク長クナリ, 往々密集ス。——四分孢子囊ハ突起ニ集リ生ズ。囊果ハ突起ノ側面ニ半球狀ヲナシテ膨起ス。色ハ紫紅色ナリ。質多肉ニシテ軟骨質ナリ。

產地: 琉球, 臺灣.

分布: 印度洋, スマトラ, ニウフホルランド熱帶部, バプア, ニウギニア, 喜望峯.

備考: 本種ハ琉球ヨリ臺灣ニ多産シ, 晒シテ乾燥ス; 内地ニ於テハ別ニ利用スル所アラズト雖モ清國人ハ食用トスルモノ、如シ, 糊料トシテ用井ルニ足ル。標品トシテ常ニ乾燥シタルモノ、外知ル能ハザルヲ以テ體ハ各部必ズ圓柱狀ナルヤ否ヲ詳ニセズ, 或ハ扁圓又ハ扁壓ナル所ナキニアラザルカ, 其モ亦乾燥シタル爲ニ然ルカ明ナラズ。

第LXI圖版. 1: *Eucheuma spinosum* (L.) J. Ag., き り ん さい, ノ實ナキモノ; 2, 3, 他物ニ附着セル所, 1-2: 體ノ縱斷面ノ一部,

$\frac{33}{1}$.—2: 體ノ縦斷面, ノ一部, $\frac{33}{1}$.—3: 體ノ横斷面, $\frac{33}{1}$.—4: 體ノ横斷面ノ一部, $\frac{220}{1}$.—5: 四分胞子囊ヲ有スル枝ノ横斷面ノ一部, $\frac{220}{1}$.—6: 囊果ヲ有スル體ノ一部, $\frac{1}{1}$.

第LXII圖版, 4-6圖. 4: 囊果, $\frac{5}{1}$.—5: 囊果ノ縦斷面, $\frac{22}{1}$.—6: 仁ノ一部即チ小仁ニシテ各小仁ヲ區劃スル中性絲ノ胎座ト果皮ノ内壁トヲ連絡スル狀ヲ示ス, $\frac{390}{1}$.

Halymenia formosa Harv.

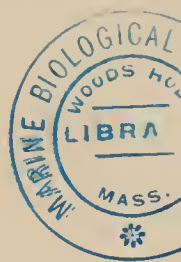
Nom. Jap.: *Tsudzuré-gusa*.

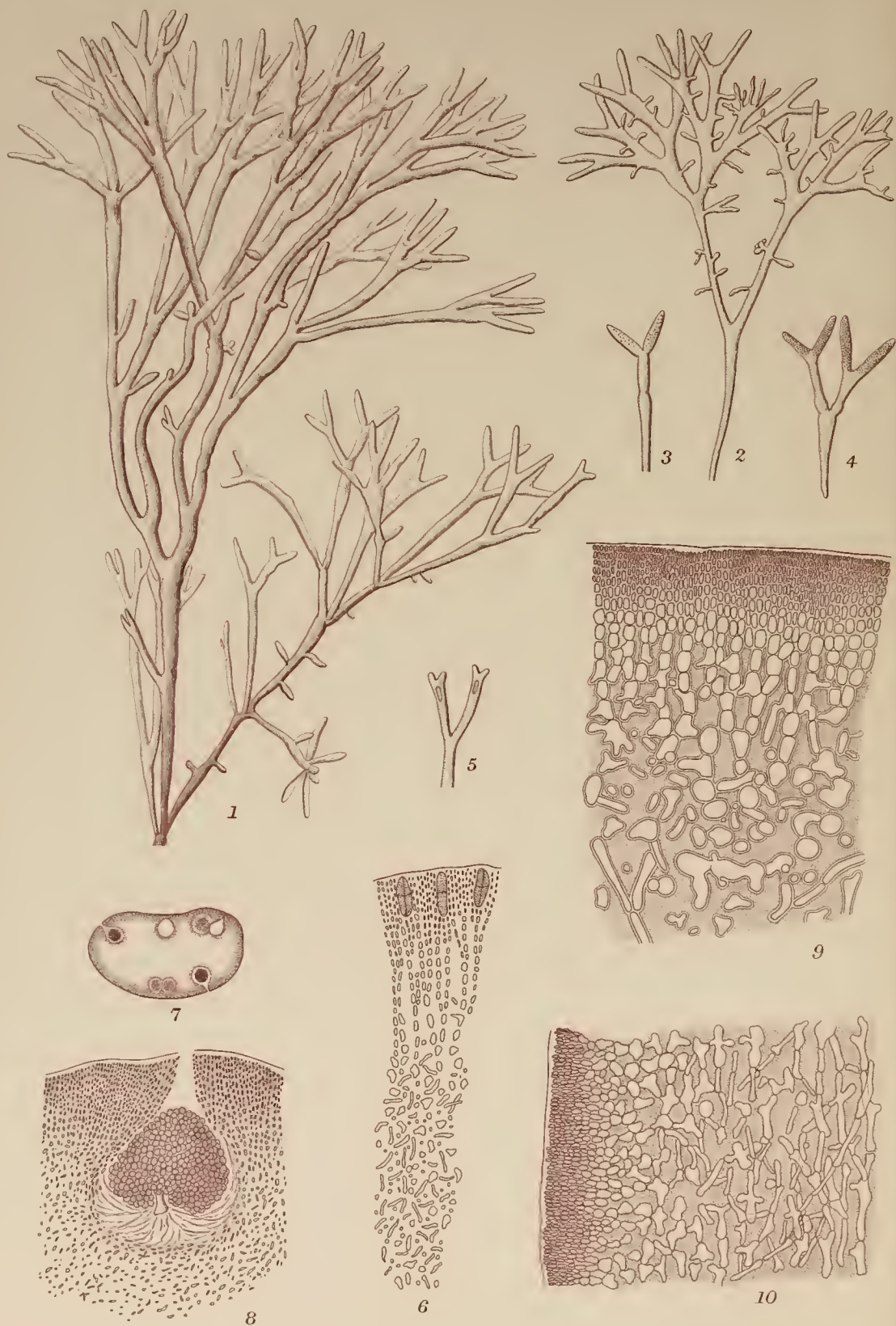
PL. LXII, Fig. 1-3.

Halymenia formosa Harv. *Fr. Isl. Alg.* no. 55; Kuetz. *Tab. Phyc.* XVI, tab. 91 (non bona); J. Ag. *Epicr.* p. 138; Heydr. *Beitr. Algenfl. v. Ost-Asien* p. 298; De Toni *Syll. Alg.* IV. p. 1539.

Hab.: Kunchan (Riukiu, Ando.); Kōtō-sho Isl. (Taiwan, Kawakami).

PL. LXII, Fig. 1-3. Fig. 1: frond of *Halymenia formosa* Harv. destitute of the lower portion of frond, $\frac{1}{1}$.—Fig. 2: terminal portion of branch showing teeth arising from margin and surfaces, $\frac{10}{1}$.—Fig. 3: portion of the cross-section of frond bearing a cystocarp, $\frac{390}{1}$.





K. Okam. del.

7 1 8 6 5 3 2 10 9 4

Polyopes Polyideoides Okam. またぼう

Halymenia formosa Harv.

ついでる 岡村 稱

第 LXII 圖版, 1-3 圖.

(*Halymenia* 屬ノ性質ハ第一卷 175 頁ニアリ).

體ハ扁平, 葉狀, 粘質アル膜質ニシテ, 下部莖ヲ爲シ(予ガ標本ニテハ下部ヲ欠ク故詳ナラズ), 長シ(予ガ標本ニテハ約 20 cm アリ), 叉狀様一稍羽狀ニ分岐ス. 枝ハ總テ線狀ニシテ長ク, 上部尖リ, 直立乃至廣開シ, 縁邊(並ニ表面ヨリ)鋸齒狀小刺ヲ存ス; 小刺ハ稍伸ビ錐ノ如ク, 單條又ハ分岐シテ同様ノ形狀ヲナス.

產地: 琉球國頭(安藤). 台灣紅頭嶼(川上)

分布: 太平洋熱帶部.

第 LXII 圖版, 1-3 圖. 1: *Halymenia formosa* Harv. ノ體, $\frac{1}{1}$.—2: 枝ノ頂部ニシテ縁邊並ニ表面ヨリ小刺ノ出ルヲ示ス, $\frac{10}{1}$.—3: 體ノ横斷面ノ一部ニシテ囊果ト皮層トヲ示ス, $\frac{300}{1}$.

Polyopes Polyideoides Okam.

Nom. Jap.: *Matabō*.

PL. LXIII.

Polyopes Polyideoides Okam. New or little known Algae f. Japan (Bot. Mag., Tokyo, Vol. IX, 1895, No. 106) p. 480, Pl. IX, Fig. 3-7: Id. Alg. Jap. Exsic. (岡村, 日本海藻標品) Fasc. 1, no. 33; 岡村, 日本藻類名彙 p. 91.

Descrip.: Fronds numerous rising from an expanded callous disc, 5-15 cm high, cylindrical at base, slightly compressed above, 1-2 mm broad, and are fastigiato-dichotomous, dichotomies being more closer above. Segments are linear-cuneate, almost cylindrical, here and there very slightly constricted, patent, ending in blunt apex or bifid. Proliferations arise both from margin and from harmed apex. They are simple, almost horizontal, constricted at base; at first minute and glandulose, but afterwards elongate and assume the shape similar to other segments of frond.

Cystocarps are collected in terminal segments, which are often somewhat separated from lower portion by constriction. They form an oblong subnematheciose aggregation on both surfaces, opening afterward by a carpostome; nucleus lodged in a cavity beneath the cortical layer, simple, globular; surrounded by the circumnuclear filaments, at the base of which a placental cell is situated, from which radiates a mass of spores.

Tetraspores also form an oblong sorus on both surfaces of ultimate segments leaving marginal portion sterile; they are oblong, cruciate, immersed among the cortical filaments.

Frond consists of two layers of cells; the inner, of densely interwoven longitudinal anastomosing filaments; in a longitudinal section, filaments are seen to anastomose forming a net-work with elongated meshes, which become gradually shorten outward, the length of meshes almost equalizing their breadth; the outer, of vertical moniliform dichotomous filaments strongly bound together by mucilage.

Substance is carnosio-cartilaginous when recent, almost corneous in drying. Color dark purplish-red, fading to yellowish.

Hab.: On rocks between tide marks. Provs. Sagami, Suruga, Totomi, Shima, Tosa. Fruits: summer.

Remarks: Only one species of the genus hithertoknown in this

country. As I have remarked in my paper l.c., the difference of the present plant from the typical one, viz. *Polyopes constrictus*, seems to consist in the more flattish and more frequent constrictions at mostly shortish intervals of the latter.

PL. LXIII. Fig. 1-2: fronds of *Polyopes Polyideoides* Okam., $\frac{1}{1}$.—Fig. 3-4: terminal portions bearing cystocarps, $\frac{1}{1}$.—Fig. 5: terminal portion with tetrasporic sori, $\frac{1}{1}$.—Fig. 6: cross-section through the tetrasporic sorus, $\frac{240}{1}$.—Fig. 7: cross-section of a terminal segment bearing cystocarps, $\frac{22}{1}$.—Fig. 8: one of the cystocarps, magd.; $\frac{175}{1}$.—Fig. 9: portion of the cross-section magd., $\frac{390}{1}$.—Fig. 10: portion of the longitudinal section magd., $\frac{220}{1}$.

Polyopes J. Agardh 1849.

またぼう属.

GRATELOUPIACEAE. むかでのり科.

體ハ扁壓,數回叉狀ニ分岐シ,諸所輕ククビレタル如クナリテ關節シ,可成リ厚キ體質ヲ有シ,明ニ絲組織ヲ以テ成ル:體層ハ可ナリ密ナル網狀ヲナシ,細キ絲ヨリ成ル;皮層ハ可ナリ密ニ凝集シ,明ニ體ノ表面ニ直角ニ並列セル細胞列ヨリ成リ,内部ノ方ハ稍緩クシテ稍圓味アル大ナル細胞ヨリ成リ,外部ノ方ハ遙ニ小ナル細胞ヨリ成ル.——四分胞子囊及囊果ハ枝ノ末梢ニ限ラレテ集リ生ジ,其部ハ輕ククビレテ僅ニ關節シタル如ク見ユ. 四分胞子囊ハ扁キ疣狀ノ「チマセシア」ヲナシテ其中ニ散在シ,十字様ニ分裂ス. 囊果ハ其局部肥大シタル末梢ニ生ジ,罕ニハ枝ノ中央ニテ同様ニ肥大シタル所ニ生ジ,甚ダ

小ニシテ皮層下ニ埋在シ、多少髓層ノ方ニ接シテ生ズ；仁ノ周圍ヲ圍繞スル組織ハ網狀ノ絲ヨリ成ル。

模範種, *P. constrictus* (Turner) J. Agardh, ハ喜望峰附近ニ普ク、専ラ南方ノ海ニ産シ弘ク暖海ニ分布ス；此他尙ホ數種此屬ニ屬スベキモノアレドモ多少疑フベキ點ナキニアラズ。本邦下ノ一種アルノミ。

屬ノ名ハ Poly (多數) ト pous (足) 又ハ ope (孔) ヨリ成ル。

Polyopes Polyideoides Okam.

またぼう 岡村 稱

第 LXIII 圖版.

性質. 體ハ多數同一ノ基部ヨリ叢生シ、硬キ軟骨質ニシテ下部稍圓柱狀、上部ハ稍扁壓ニシテ肥厚シ鈍頭ニ終リ、稍直出様—叉狀ニシテ、叉枝ハ上方ホド接近シテ出デ、通常不規則ニ叉狀ニシテ腋圓ク、廣開シ、所々輕ククビレ、多クハ分岐點ニ於テ細クナリ、多少兩縁ヨリ副枝ヲ生ズ；副枝ハ單條又ハ分岐シ水平ニシテ、其形狀並ニ體質トモ他ノ部ニ異ナラズ。囊果及ビ四分孢子囊ハ末梢ノ兩面ニ長橢圓形ノ班ヲナシテ集リ生ズ。

產地: 潮線間ノ岩石ニ生ズ。相模、駿河、遠江、志摩、土佐。

體ハ多數開張セル盤狀根ヨリ叢生シ、5-15 cm 高ク、下部圓柱狀ニシテ、上方ニ少シク扁壓シ、1-2 mm ノ幅ヲ有シ、枝ハ直出セル叉狀ニシテ、叉枝ハ上方ニ漸次密ナリ。各部ハ線狀ニシテ略ボ圓柱狀、諸所極メテ僅ニクビレ、廣開シ、鈍頭ニ終リ或ハ二裂ス。副枝ハ枝ノ縁邊並ニ疵ヲ蒙リタル枝端ヨリ發出ス；而シテ單條ニシテ、殆ド水平ニ出デ、基部クビレ；其初メ出ルヤ

小ニシテ小サキ疣ノ如クナレドモ後長クナリテ他ノ部ト同様ノ形狀ヲナスニ至ル。

囊果ハ頂部ノ枝ニ集リ、其部ハ往々クビレタル部分ヲ以テ其下部ト稍區劃セラル、而シテ其集リタル部分ハ體ノ兩面ニ稍長楕圓形ノ「チマセシア」狀ノ斑ヲナシ、後果孔ヲ開ク；仁ハ皮層ノ下ナル凹所ニ存シ、單體ニシテ球狀ヲナシ、仁ヲ圍繞スル絲組織ヲ以テ圍マレ、其底部ニ一個ノ胎座ニ當ル細胞アリ、此細胞ヨリ孢子ノ團塊ヲ放射狀ニ發出ス。

四分孢子囊モ亦末梢ノ兩面ニ長楕圓狀ノ群ヲナシ、群ノ周圍ハ中性組織ニテ存ス；四分孢子囊ハ俵狀ニシテ十字狀ニ分裂シ、皮層ノ絲ノ間ニ埋入ス。

體ハ二層ヨリ成ル；内層ハ縱ニ密ニ網羅セル絲ヨリ成ル；縱斷面ニテハ絲組織ハ網目ヲ堅ニシテ網狀ヲナシ、網目ハ漸次外方ニ短クナリ、目ノ長サト幅ト殆ド同一ナルニ至ル；外層ハ念珠狀ニ連ナレル叉狀ノ絲ヨリ成リ粘質ヲ以テ甚シク堅ク結合ス。

體質ハ新鮮ナルトキハ多肉ノ軟骨質ニシテ、乾燥スルトキハ殆ド角ノ如ク堅硬トナル。色ハ濃キ暗紫紅色ニシテ、褪色スルトキハ黃色トナル。

備考： 本植物ハ外觀頗ル *Polyides lumbricalis* ニ類スレドモ、種々ノ點ニ於テ差アリトス；而シテ *Polyopes constrictus* ニ酷似スルヲ以テ予ハ其標品ヲ見ル能ハザリシカドモ、其種ノ記載ノミニ依リテ之ヲ此種ナリト思ヒタリ。之ニ依テ予ハ其種名ヲ附シテ本植物ヲ故 Prof. Fr. Schimtz 氏ニ送り以テ氏ノ意見ヲ徵シタルニ氏ハ左ノ答ヲ以テセリ；即チ：“貴下ガ *Poly. constrictus* トシテ送ラレタル植物ハ未ダ正確ニ其差異ヲ判ズル能ハザレドモ喜望峰附近ニ産スル *P. constrictus* トハ全く同一ニアラザレドモ、而モ此屬ニ屬スルモノ、如シ。” 本植物ト該模範種トノ差

ハ後者ノ前者ヨリモ扁平ナルト、概チ少距離ニ於テ屢々緘レタルトニ於テ存スルモノ、如シ。元ト *Cryptonemia* ノ種類トセラレタルモノヨリ *J. Agardh* 氏ノ研究ニ依リテ此屬ニ遷サレタル諸種、例ヘバ *Poly. ligulata*, *P. rigida*, *P. Phyllophra*, *P. decipiens* 及ビ *P. elata* ト本植物トノ差ハ *P. constrictus* ト本植物トノ差ヨリモ更ニ大ナルモノアリ。之ニ依テ予ハ曩ニ本種ヲ新種トシテ公シタルナリ。

第 LXIII 圖版. 1-2: *Polyopes Polyideoides* Okam., またぼうノ體, $\frac{1}{1}$. —3-4: 嚢果ヲ有スル體ノ上部, $\frac{1}{1}$. —5: 四分孢子群ヲ有スル體ノ上部, $\frac{1}{1}$. —6: 四分孢子群ノ横斷面, $\frac{240}{1}$. —7: 嚢果ヲ有スル部分ノ横斷面, $\frac{22}{1}$. —8: 嚢果, $\frac{175}{1}$. —9: 體ノ横斷面ノ一部, $\frac{390}{1}$. —10: 體ノ縦斷面ノ一部, $\frac{220}{1}$.

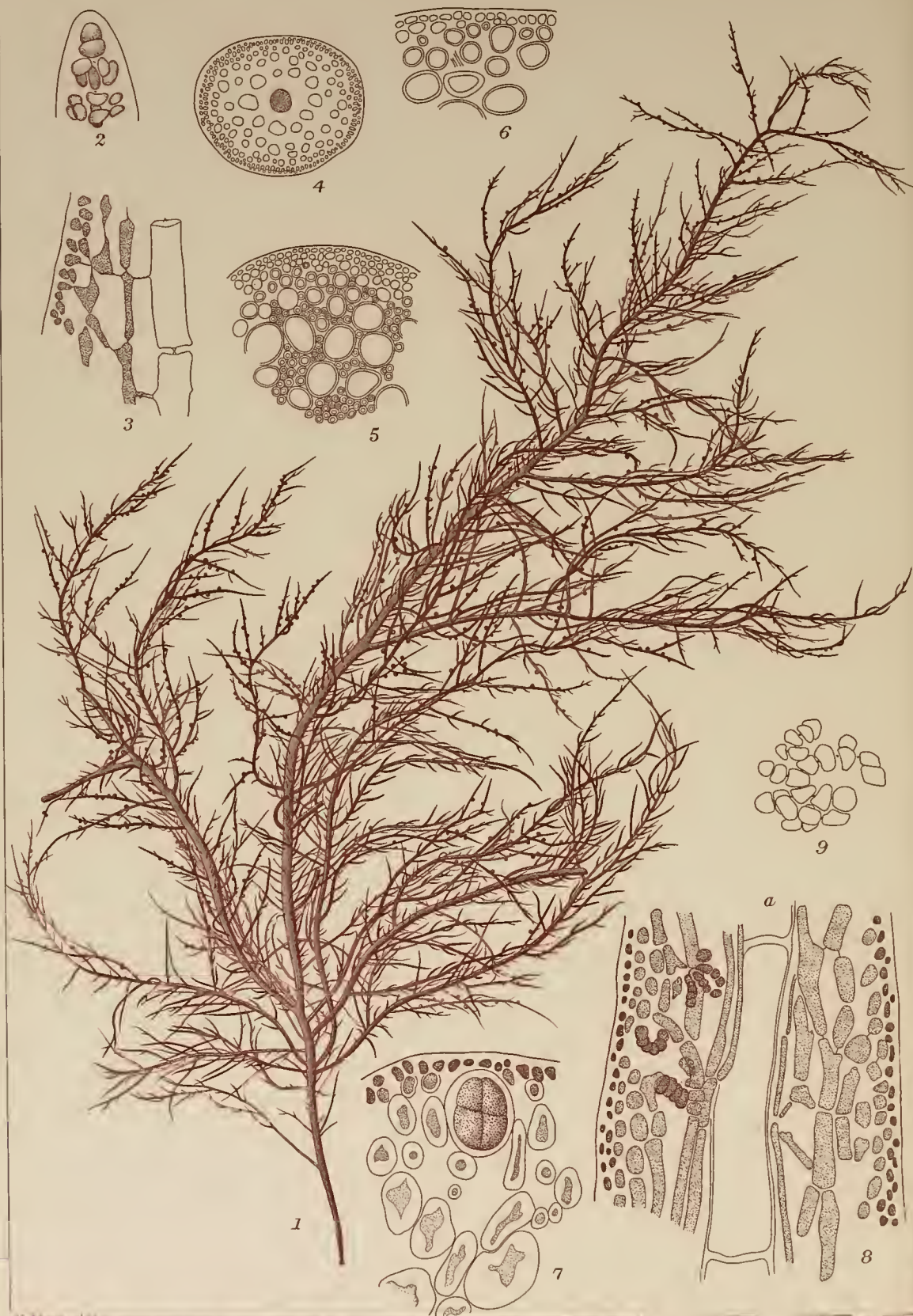
Hyalosiphonia n. gen.

DUMONTIACEAE.

PL. LXIV-LXV.

Fronds filiform, cylindrical, branching on all sides, at the beginning provided with a hyaline longitudinal, cylindrical axis, from which infra-cortical cells verticillately arise longitudinally, the latter by further division giving rise to the cortical layer which is composed of a few rows of smaller cells arranged in an anticlinal manner. In older portion, infra-cortical cells now abundantly formed, grow up into elongated hyaline cells of wider and narrower calibres taking the appearance of cylindrical cells and rhizoidal filaments, and the central axis becomes indistinct being mixed up with them. Apical cells are





K. Okam. del.

2 3

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Hyalosiphonia caespitosa Okam. n. g. et sp.

いそむめもとき





K. Okam. del.

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Hyalosiphonia caespitosa Okam. n. g. et sp. いそむめどき Fig. 1-6.
7 2 4 3 9 8 5 6
Valonia confervoides Harv. ほそばろみや Fig. 7-10.

horizontally articulated.—Tetrasporangia scattered, irregularly cruciate. Carpogonial branches and auxiliary-cell-branches are produced in number, being formed as lateral branches of infra-cortical cells. Cystocarps prominent, minute, globular with closed pericarp; gonimoblast spherical faintly lobed, almost all articulations of spore-filaments being transformed to spores.

From the characters of curved auxiliary-cell-branches and ooblastema filaments the genus is placed in the family *Dumontiaceae*. Among hitherto-known genera of that family the present genus seems to be placed in the vicinity of *Cryptosiphonia* from the point of resemblance of the external habit of sterile frond. But, the characters of central axis and cystocarps are quite different from those of that genus, and I do not find close relationship with any genera of that family.

***Hyalosiphonia coespitosa* n. sp.**

Nom. Jap.: *Iso-mune-modoki*.

PL. LXIV, PL. LXV, Fig. 1-6.

Fronds elongated, coespitose, rising from a scutate disc, filiform, cylindrical, tapering to both ends, either furnished with a percurrent stem or dividing into some main divisions, irregularly branching on all sides, 10-30 cm high. Branches often elongated, patent and weak, somewhat thickly furnished with longer or shorter ramuli, some of which elongate into normal branches which are in turn loaded with ramuli. Even the percurrent stem or main branches are more or less thickly furnished with short ramuli. All the branches filiform and patent, tapering to a fine apex. Ramuli short and slender, tapering to both ends, 5-10 mm long.—Tetrasporangia scattered over bran

ches. Cystocarps prominent, borne on branchlets, scattered or often a few together, globular, sessile. Colour red, turning to orange or yellowish-green. Substance soft cartilaginous, gelatinous; the plant adheres pretty firmly to paper in drying and dried specimens soon decompose on reimmersion in water.

Hab. : On rocks in sublittoral region; Shimabara (Prov. Hizen), Shikano-shima (Prov. Chikuzen), Takashima (Prov. Bungo), Ichino-miya (Prov. Noto). Fruits : summer.

Structure of the frond : In longitudinal section of the apical portion of a young branchlet we find longitudinal axis consisting of large, hyaline, cylindrical cells, around which longer or shorter narrower infra-cortical, filamentous cells run longitudinally. They are united with the axial cells in several points in the middle portions by fine protoplasmic connections and give rise by further division to cortical layer, which internally consists of larger, externally, of smaller cells arranged in short anticlinal rows. The beginning of the cortical layer is seen in the growing apex of a young ramulus, where the axial cells, the third and fourth from the apical cell, cut off some number of cells on all sides which give rise to cortical cells by further division. Infra-cortical cells elongate later in a longitudinal direction and are transformed into more or less filamentous cells running parallel to the axis.

As the part grows in age, infra-cortical cells, which are gradually increased in number, grow up into elongated hyaline cells of wider and narrower calibres, either taking the appearance of cylindrical cells similar to the axial cells, or of rhizoidal filaments, and thus the central axis becomes indistinct being mixed up with them.

Development of the cystocarp: Carpogonial branches and auxiliary cell-branches are usually formed separately in number as lateral branches of infra-cortical cells. Carpogonial branch is rarely sessile; it generally consists of mostly five or six discoidal cells, usually provided with one or two sterile pedicel-like cells. Of them, two hypogenal cells beneath the carpogonium, which carries very long and more or less strongly twisted trichogyne, are smaller, while two or three cells next to them are larger and richly supplied with cell-contents. Those two larger cells fuse with the carpogonium after fertilization. The carpogonial branch is strongly curved so as to bring the carpogonium against the auxiliary cells in the same branch. In a few cases, I have seen an auxiliary cell-branch formed from the lowest cell of a carpogonial branch (PL. LXV, Fig. 2). Auxiliary cell-branches very rarely consist of a few cells, more usually of many cells and they are more or less curved, issuing branches in several directions.

When fertilization takes place the carpogonium usually fuses with the fourth and fifth cells beneath it by producing a short ooblastema-process from the inner side of it. Even there is one more cell, i.e. the sixth from the carpogonium, which is very slightly smaller than other two cells but equally filled with contents, I have not seen it to fuse together with others. From the carpogonium after fusion, two or probably more ooblastema filaments are emitted, sometimes as a simple tube-like protuberance, but usually they are separated from the carpogonium by forming a septum and pit formation. They are mostly simple and non-septate, but sometimes branched. They come in contact with some cells of an auxiliary cell-branch, either by fusion or by forming pits. At the time when the cells of auxiliary cell-branch are acted upon by ooblastema filaments the cortical portion of the frond in that portion is slightly elevated, indicating the beginning of pericarp. The fertilized auxiliary cells, either after fusion or

without fusing, very much enlarge so as to form the placental cell of nucleus. At the same time the remaining cells in the same chain having the fertilized auxiliary cells cut off branches consisting of many minute cells in every direction which come in contact with sterile cells of vegetative portion, either by fusion or by pit-formation. These branches spread out at the bottom of the cavity of cystocarp which is now gradually developing. They serve on one hand as a medium supplying nourishment for spores developing through the placental cell of the nucleus, and on the other as a tissue sustaining the placental cell loaded with spores. From the placental cell gonimoblast is formed which is faintly divided into a number of gonimolobes, and in almost all articulations of spore-filaments, spores are produced almost at once.

Cystocarps, when fully formed, are globular and scattered over branchlets, two or more heaping at the same place. Thick pericarp which is not furnished with carpostome is formed by the local growth of the cortical portion of frond, internally composed of plexus of filaments lining the inner wall of pericarp, externally of anticlinal rows of cells. Nucleus is globular and is faintly divided into certain number of nucleoli. There is no special network surrounding the nucleus and spores are set free by dissolution of pericarp.

PL. LXIV. Fig. 1: fertile frond of *Hyalosiphonia coespitosa* Okam. n. g. and sp., in nat. state and size.—Fig. 2: growing apex of a branch, showing the formation of the cortical layer, highly magd.—Fig. 3: portion of a longitudinal section of a young branch, $\frac{335}{1}$.—Fig. 4: cross section of a young branch, $\frac{80}{1}$.—Fig. 5: portion of the cross section of an older portion of a branch, $\frac{80}{1}$.—Fig. 6: portion of the cortical layer, $\frac{220}{1}$.—Fig. 7: tetrasporangium, $\frac{220}{1}$.—Fig. 8: longitudinal section of a branch showing auxiliary cell-branches; α , axis, $\frac{220}{1}$.—Fig. 9: auxiliary cell-branch, magd.

PL. LXV, Fig. 1-6. Fig. 1: carpogonial branch; c , auxiliary cells; p , pedicel cell, 4^{50}_1 .—Fig. 2: carpogonial branch and auxiliary cell-branch, a ; c , auxiliary cell in the carpogonial branch, 4^{50}_1 .—Fig. 3: ooblastema filaments f, f , produced from fused cell of the carpogonium and auxiliary cells, 3^{50}_1 .—Fig. 4: auxiliary-cell branch, a , united with ooblastema filaments, f , 3^{50}_1 .—Fig. 5: longitudinal section of a young cystocarp, with gonimolobes arising from fused auxiliary cells, a , and the remaining portion of the auxiliary-cell branch coming into contact with vegetative cells, 2^{20}_1 .—Fig. 6: longitudinal section of a ripened cystocarp; s , placental cell, 3^{10}_1 .

Hyalosiphonia 新屬.

いそむめもどき屬.

第LXIV—LXV圖版.

體ハ絲狀、圓柱狀ニシテ各方面ニ分岐シ、幼部ニ中軸ヲ存ス；中軸ハ眞直ニシテ無色ノ圓柱狀細胞ヨリ成リ、此細胞ヨリ皮下層細胞ヲ輪生ス；皮下層細胞ハ縱直ニ走リ、後漸次分裂シテ皮層ヲナス；皮層ハ數層ノ小細胞ヨリ成リ、表面ニ直角ニ列ス。老成部ニテハ漸次皮下層細胞増加シテ大小ノ直徑ヲ有スル長キ透明ナル細胞トナリ、其太キモノハ中軸細胞ト同様ナル圓柱狀細胞トナリ、其細キモノハ根樣絲トナルヲ以テ、中軸ハ此等細胞ト混ズル爲メ不明トナル。頂細胞ハ水平ニ關節ス。——四分孢子囊ハ散生シ、不規則ニ十字樣ニ分裂ス。胎原列及助細胞列ハ多數ニシテ皮下層細胞ノ枝トシテ形成セラル。囊果ハ小ニシテ球狀ニ隆起シ、果孔ナキ果皮ヲ存ス；仁ハ球狀ニシテ微カニ小仁ニ分裂シ、孢子絲ノ各關節殆ド皆孢子トナル。

助細胞列ノ屈曲シタルコト並ニ「オーブラステマ」絲ノ性質ニヨリ、本屬ハ Dumontiaceae ニ置カル。從來此科ニ知ラレタル諸屬中 Cryptosiphonia ハ其果實ナキ體ノ外形ノ類似ニヨリ本屬ニ近キモノト思ハル。然レドモ、中軸ノ様子、囊果ノ性質等ハ全ク其屬ノモノト異ナリ、此科ノ何レノ屬ト近縁アルカヲ詳ニセズ。

屬ノ名ハ Hyalos (玻璃即チ透明) ト Siphon (管) トヨリ成ル; 即チ體ノ構造ニヨリテ命名シタルナリ。

Hyalosiphonia coespitosa Okam. 新種.

いそうめもどき 岡村 稱.

第 LXIV 圖版; 第 LXV 圖版, 1-6 圖.

體ハ長ク、圓盤狀附着器ヲ以テ叢生シ、絲狀—圓柱狀ニシテ、兩端ニ細ク、一條ノ幹ヲ有スルカ又ハ數條ノ主枝ニ分レ、各方面ヨリ不規則ニ分岐ス、高サ 10-30 cm. アリ。枝ハ往々長クシテ、廣開シ、弱ク、稍密ニ長短不同ノ小枝ヲ存ス; 小枝ノ或モノハ通常ノ枝トナリ其枝亦更ニ小枝ヲ存ス。幹並ニ主枝ト雖モ多少密ニ小枝ヲ存ス。枝ハ總テ絲狀ニシテ、廣開シ、枝端尖細ナリ。小枝ハ短クシテ細ク、兩端ニ瘠セ、5-10 mm 長シ。——四分胞子囊ハ枝ノ皮層中ニ散在ス。囊果ハ球狀ニシテ枝上ニ隆起シ、散在シ或ハ二三集リ生ジ、無柄ナリ。色ハ紅色ニシテ、褪色スルトキハ橙黃色又ハ帶黃綠色トナル。質ハ粘質多キ柔キ軟骨質ナリ。植物ハ可ナリ密ニ紙ニ附着シ、乾燥標品ハ再ビ之ヲ水ニ浸ストキハ解類スルコト容易ナリ。

產地: 半深帶ノ岩石上ニ生ズ。肥前島原、筑前志賀島、豐後高島、能登一ノ宮。 囊果:—夏季。

體ノ構造： 幼キ枝ノ頂部ノ縦斷面ニ於テ中央ニ一條ノ縱走セル中軸アルヲ見ル；中軸ハ大ナル透明ナル圓柱狀細胞ヨリ成リ，其周圍ニ長キ又ハ短キ細キ絲狀細胞アリテ縱走ス；此絲狀細胞ハ中軸細胞ノ中央部ト細カキ原形質連絡點ヲ以テ連絡シ，漸次分裂シテ皮層ヲ形成ス；皮層ノ内層ハ大ナル細胞ヨリ成リ，外層ハ表面ニ直角ニ列ナレル短キ小細胞列ヨリ成ル。皮層形成ノ初期ハ幼キ小枝ノ頂端ニ於テ見ルヲ得ベシ；即チ頂細胞ヨリ三四番目ノ中軸細胞ハ其周圍ニ數個ノ細胞ヲ分裂シ，此細胞更ニ分裂シテ皮層ヲナス。皮層下細胞ハ後縱ニ伸ビ，多少絲狀ノ細胞トナリテ，中軸ト並行シテ走ル。斯クテ，此部ノ老成スルニ隨ヒ，皮層下細胞ハ漸次其數ヲ増シ，廣狹一ナラザル長キ透明ナル細胞トナリ，中軸細胞ト同様ナル圓柱狀細胞トナルカ或ハ根様絲狀ノ絲狀細胞トナリ，中軸ハ此等細胞ト混在スル爲メニ不明トナル。

囊果形成ノ順序： 胎原列及助細胞列ハ通常澤山ニ別々ニ形成セラレ，皮層下細胞ノ枝トシテ生ズ。胎原列ハ稀ニ無柄ニシテ，概チ五六個ノ扁圓ナル細胞ヨリ成リ，通常一個乃至二個ノ中性ノ柄ノ如キ細胞ヲ存ス。此等細胞中，胎心細胞ノ下ナル二個ノ細胞ハ小ナレドモ其下ナル二個乃至三個ノ細胞ハ大ニシテ充分ニ内容物ニ富ム；胎心細胞ハ甚ダ長クシテ多少甚シクヨレタル受精毛ヲ戴ク。其内容ニ富メル二個細胞ハ胎心ノ受胎シタル後之ト癒合スルモノナリ。胎原列ハ甚シク屈曲シ以テ其列中ニ在ル助細胞ニ對シテ胎心ヲ接スル如クナレリ。胎原列ノ枝ノ最下位ノ細胞ヨリ一條ノ助細胞列ヲ生ジタルハ罕ニ見ル所ナリ（第LXV圖版，2圖）。助細胞列ハ罕ニ少數ノ細胞ヨリ成リ，通常ハ多數ノ細胞ヨリ成リテ多少屈曲シ，各方面ニ枝ヲ發出ス。

受胎作用ノ起ルトキハ胎心細胞ハ通常其内側ヨリ短キ「オ

「オーブラステマ」絲ヲ生ジ、胎心下ナル第四及第五番目ノ細胞ト癒合ス。若シ、胎心ヨリ六番目ナル一細胞アリトモ、之ト癒合スルコトハ予ノ見ザル所ニシテ、此細胞ハ他ノ同様ナル二個細胞ト同ジク内容ニ富メドモ稍小ナリトス。癒合シタル後、胎心細胞ヨリ二條又ハ多分二個以上ノ「オーブラステマ」絲ヲ發出ス；此絲ハ時ニ單條ノ管狀ナル突起ノ如クナリト雖モ、通常隔膜ヲ生ジ原形質連絡點ヲ形成シテ胎心ヨリ出ヅ；而シテ大抵單條ニシテ隔膜ナケレドモ、時ニハ分岐スルモノアリ。「オーブラステマ」絲ハ胎原列ノ或細胞ト接シテ之ト癒合シ若クハ連絡點ヲ形成シテ連絡ス。助細胞列ノ某細胞ガ「オーブラステマ」絲ノ作用ヲ受ルトキハ其部ノ體ノ皮層ハ少シク隆起シ以テ果皮ノ形成ノ初期ヲ示ス。受胎シタル助細胞ハ癒合シタル後若クハ癒合スルコトナクシテ甚シク肥大シ、以テ仁ノ胎座タルベキ細胞ヲ形成ス。同時ニ、受胎シタル助細胞ト同列中ノ他ノ細胞ハ各方面ニ枝ヲ生ズ；此枝ハ多數ノ小細胞ヨリ成リ、體ノ營養部ノ中性細胞ト或ハ癒合シ又ハ連絡點ヲ形成シテ接觸ス。此等ノ枝ハ今漸次形成シツ、アル囊果ノ内腔ノ底部ニ展ガリ、一方ニハ仁ノ胎座タル細胞ヲ經テ發育シツ、アル胞子ニ營養ヲ輸スルノ用ヲナシ、他方ニハ胞子ヲ着ケタル胎座ヲ支持スル組織トナル。胎座細胞ヨリ成胞絲ハ形成セラレ微カニ數塊ノ小仁ニ分レ、胞子絲ノ各細胞殆ド同時ニ果胞子トナル。

囊果ハ充分ニ形成セラル、トキハ球狀ニシテ小枝ニ散在シ、二個若クハ數個同所ニ集リ生ズルコトアリ。果皮ハ果孔ナク、厚クシテ、其部ノ體ノ皮部ヨリ形成セラレ、内部ハ果皮ノ内面ヲ裏付ケタル絲組織ヨリ成リ、外部ハ表面ニ縦ニ列セル數列ノ細胞ヨリ成ル。仁ハ球狀ニシテ、微カニ數個ノ小仁ニ分タル。仁ヲ圍繞スル特殊ノ網狀組織ナク胞子ハ果皮ノ解頰ニヨリテ散出ス。

第LXIV圖版. 1: *Hyalosiphonia coespitosa* Okam. 新屬及新種, いそむめもどき, ノ囊果ヲ有スルモノ, 自然ノ状態, $\frac{1}{1}$ —2: 枝ノ成長點ニシテ, 皮層ノ形成ヲ示ス, 高度廓大.—3: 幼キ枝ノ縱斷面ノ一部, $\frac{335}{1}$ —4: 幼キ枝ノ横斷面, $\frac{80}{1}$ —5: 老成セル枝ノ横斷面ノ一部, $\frac{80}{1}$ —6: 皮層組織ノ一部, $\frac{220}{1}$ —7: 四分孢子囊, $\frac{220}{1}$ —8: 枝ヲ縱斷シテ助細胞列ヲ示ス; *a*, 中軸, $\frac{220}{1}$ —9: 助細胞列, 廓大.

第LXV圖版, 1-6圖. 1: 胎原列; *c*, 助細胞列; *p*, 柄ノ如キ細胞, $\frac{450}{1}$ —2: 胎原列ト助細胞列, *a*; *c*, 胎原列中ニ在ル助細胞, $\frac{450}{1}$ —3: 胎心細胞ト助細胞トノ癒合シタル細胞ヨリ「オーブラステマ」絲, *f, f*, ヲ生ジタルモノ, $\frac{350}{1}$ —4: オーブラステマ絲, *f*, ノ助細胞列, *a*, ト連絡シタルモノ, $\frac{350}{1}$ —5: 幼キ囊果ヲ縱斷シテ, 助細胞ノ癒合シタルモノ, *a*, ヨリ分裂セル成胞絲ヲ發生シタルモノ並ニ其助細胞ト同列ノ細胞ガ體ノ營養部ノ細胞ト連絡シタルモノ, $\frac{220}{1}$ —6: 熟シタル囊果ノ縱斷面; *s*, 胎座, $\frac{340}{1}$.

Valonia confervoides Harv.

Nom. Jap. *Hoso-valonia*.

PL. LXV, Fig. 7-10.

Valonia confervoides Harv, *Alg. Ceyl. exsic. sub. n. 73 et in Alg. Exs. Friendly Isl. sub n. 101*; J. Ag. Till *Alg. Syst. VIII*, p. 100; De Toni *Syll. Alg. I. p. 378*; Heydr. *Einige Alg. Loo-choo-Inseln* p. 101.

Hab. Riukiu Isl. (Kuroiwa, Ando). Agincort Isl. (Taiwan, Kawakami.)

PL. LXV, Fig. 7-10. Fig. 7: three pieces of fronds of *Valonia confervoides* Harv. detached from intricate plexus, $\frac{1}{1}$.—Fig. 8: piece of branch showing the mode of ramification, $\frac{3}{1}$.—Fig. 9-10: beginning of branchlets (0.5 mm thick), $\frac{1^2}{1}$.

Valonia Ginnani 1757.

バ ロ ニ ア 屬.

VALONIACEAE.

バ ロ ニ ア 科.

體ハ石灰質ヲ被ムラズ, 老成シタルモノハ多細胞ヨリ成リ, 一回乃至數回傘狀又ハ束狀ニ分岐シ, 枝ノ基部ニ隔膜ヲ存ス, 各部位ノ枝ハ主幹ト同様ニシテ環狀ノクビレナシ. 根ハ位置不規則ニシテ, 一個細胞ヨリ成リ, 主幹ヨリ隔膜ヲ以テ區劃セラル. 游走子ハ同時ニ形成セラレ, 概テ形狀ノ變化セザル, 單細胞ノ小サキ植物ニ生ジ, 細胞膜ニ多數ノ圓キ孔ヲ生ジテ其處ヨリ脫出シ, 直ニ新植物トナル. 「アブラノ」胞子ハ細胞ノ負傷シタル際ニ形成セラル. 受胎作用及他ノ生殖器官ハ知ラレズ.

15-20 種ノ海産植物ニシテ, 専ラ熱帶ノ海ニ産シ, 太西洋, 太平洋諸島並ニ地中海ニ産ス. 只 *V. ovalis* (Lyngb.) J. Ag (= *Gastridium ovale* Lyngb.) ノミハ「スカンジナビア」ノ海岸ノ如キ北ノ方マデモアリ.

屬ノ名ハ Valoni ト云ヘル人ノ名ヲ取レリ.

Valonia confervoides Harv.

ほ そ ば ろ に あ.

第LXV圖版, 7-10圖.

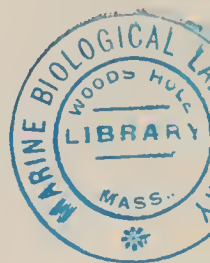
體ハ叢生シ, 錯綜シ, 幼者ハ2 cm 程高ク, 老成スルトキハ往々錯綜シテ數 cm ニ互ル. 枝ハ稍單條ニシテ屈曲シ, 往々2.5 cm 以上モ巨リテ其上部ヨリ傘形ニ出デ, 又不規則ニ生ジ, 始メハ集リ生ズレドモ長ズルニ至レバ廣開シ, 往々屈曲シ, 分枝ス. 枝ハ圓柱狀ニシテ頂端棍棒狀ナラズ, 傘狀ニ出タル部分ノ下ハ少シク開展スルコトアリ. 膜稍硬ク, 色暗綠色ナリ: 紙ニ附着セズ.

產地: 琉球 (黒岩, 安藤), アジンコート島 (臺灣, 川上).

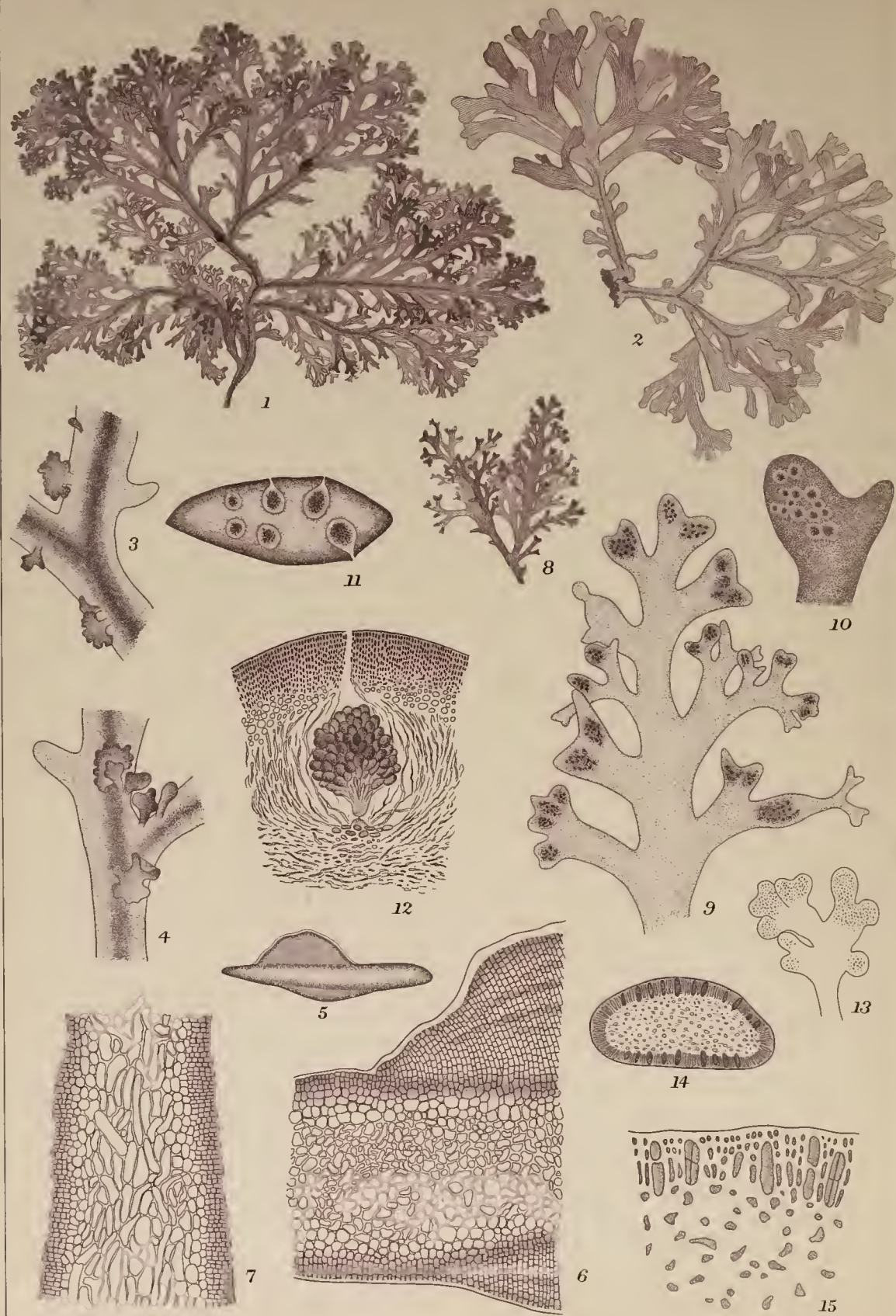
分布: 太西洋熱帶部, (ベルムダ島); 印度洋セーロン島, 布哇, 濠洲, Stone Island 及 “Bloomfield” River.

備考: 予ノ標品ハ乾燥標品ニシテ其生時ノ狀態ヲ知ルニ由ナキヲ以テ今書ノ記ス所ニ依テ上記ノ性質ヲ記ス. 體ノ太サハ0.5 mm 程ナリ.

第LXV圖版, Fig. 7-10圖. 7: 錯綜セル叢ヨリ游離シタル *Valonia confervoides* Harv., ほそばろにあノ三片, 1-3: 枝態ヲ示ス, 3-9-10: 小枝ノ出ル始マリ, 0.5 mm 太シ, $\frac{1}{1}$.







K. Okam. dcl.

Carpopeltis rigida (Harv.) Schmitz. ちやぼぎんとき

Carpopeltis rigida (Harv.) Schmitz.

Nom. Jap.: *Chabo-kintoki*.

PL. LXVI.

Carpopeltis rigida (Harv.) Schmitz *Mar. Florid. v. Deutsch-Ost-Afrika* (1895), p. 168; De Toni Syll. Alg. IV, p. 1606.; Heydr. Einige Algen v. Loo-choo (Ber. d. Deutsch. Bot. Gessell. 1907, Bd. XXV, p. 104.—*Cryptonemia rigida* Harv. *Alg. Ceyl. exsicc. n. 51*; J. Ag. Epicr. p. 163.

Hab.: Sharyotō, (Taiwan, I. Ikeuchi); Agincort Isl. (T. Kawakami); Hoapinsu, Ryukyu (Kuroiwa); Futae (Amakusa Isl.).

Fruits: summer.

PL. LXVI. Fig. 1: fertile frond of *Carpopeltis rigida* bearing cystocarps, $\frac{1}{1}$.—Fig. 2: two sterile fronds, $\frac{1}{1}$.—Fig. 3-4: upper and lower surfaces of the same portion of a branch, showing proliferations on both surfaces, $\frac{5}{1}$.—Fig. 5: cross-section of the lower thickened portion of frond, $\frac{10}{1}$.—Fig. 6: portion of the same as fig. 5, $\frac{220}{1}$.—Fig. 7: longitudinal section of a branch, $\frac{220}{1}$.—Fig. 8: branch bearing cystocarps, $\frac{1}{1}$.—Fig. 9: the same magnified, $\frac{5}{1}$.—Fig. 10: portion of the same a little more highly magd., $\frac{22}{1}$.—Fig. 11: cross-section of fertile portion, $\frac{54}{1}$.—Fig. 12: cystocarp, $\frac{220}{1}$.—Fig. 13: branch bearing tetrasporic sori, $\frac{12}{1}$.—Fig. 14: cross-section of tetrasporic sorus, $\frac{21}{1}$.—Fig. 15: tetrasporangia, $\frac{390}{1}$.

Carpopeltis Schmitz, 1889.

きんとき屬.

GRATELOUPIACEAE. むかでのり科.

體ハ扁壓又ハ扁平ニシテ、兩縁ニ薄ク、數回叉狀ニ分岐シ、
叉枝ハ正シキコトアリ又正シカラザルコトアリ、下部往々明
ニ隆起セル中肋ヲ存シ、緻密ナル組織ヲ有シ、細胞—絲組織ヨ
リ成ル。髓部ハ可ナリ密ニシテ絲狀細胞ヨリ成ル;皮部亦緻
密ニシテ細胞組織ヨリ成リ、内部ニハ圓クシテ稍大ナル細胞ヨ
リ成リ、外部ニハ小サキ細胞ヨリ成リテ明ニ表面ニ直角ニ列
シ、恰モバレンキマ組織ヲ成セルガ如シ。——四分胞子囊及ビ
囊果ハ末端ノ一小部分結實部ノ如クナレル所ニ限ラレテ生ズ。
四分胞子囊ハ扁キ「チマセシア」狀ヲナシテ集リ、十字様ニ分裂
ス。囊果ハ稍厚クナリタル結實部ニ殆ド全部埋リテ生ジ、甚
ダ小ニシテ、皮下層ニ存シ、兩面ニ在リ、其部ノ外皮ハ僅ニ膨
起シテ果皮ヲナス;仁ノ周圍ヲ被包スル絲組織ハ極メテ僅ニ
之ヲ存ス。

7-8 種各地ノ暖海ニ産スルモノアリ;專ラ濠洲等ニ産ス。

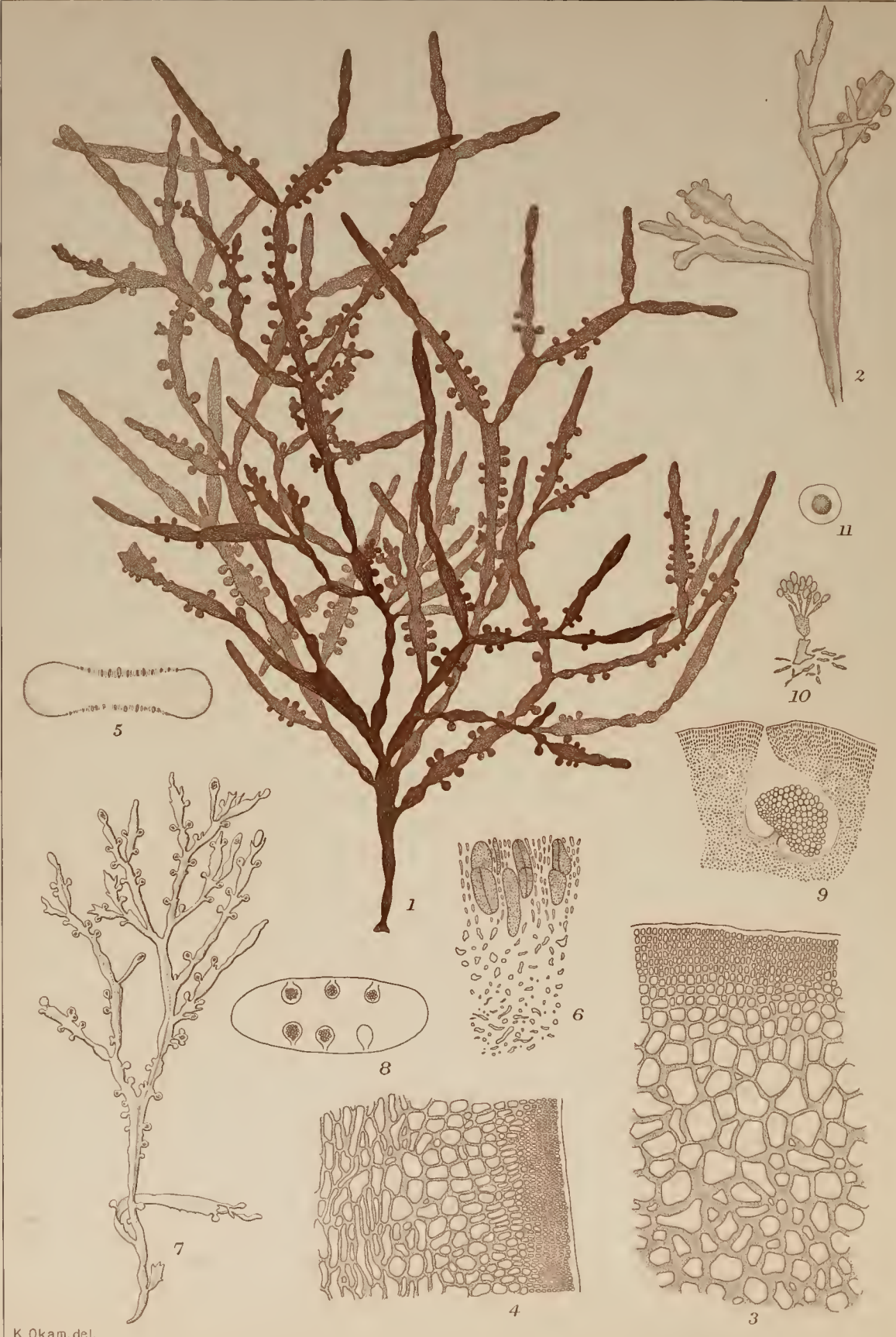
屬ノ名ハ Carpos (果實) ト Pelte (楯) トヨリ成ル;即チ枝端ノ圓ク區
劃セラレタル部分ニ果實ヲ生ジタル狀ニ因ル。

Carpopeltis rigida (Harv.) Schm.

ちやほきんとき.

第 LXV 圖版.

體ハ吸盤狀附着器ヲ以テ立チ、扁平ニシテ稍幅濶キ線狀ヲ
ナシ、羽狀様叉狀ニ分岐シ、體ノ下部ハ明ニ隆起セル中肋ヲ存
シ、中肋ハ體ノ中央部以上迄見ルベク、其老成セルモノハ往々



K. Okam. del.

5 7 1 4 3 10 9 11 2

Carpopeltis angusta (Harv.) Okam. さんとき

著シク増厚シテ體ノ下部殆ド圓柱狀ノ莖ヲナスモノアリ；高サ 5-7 cm, 幅 3-4 mm アリ。主ナル枝ハ羽狀ニ互生シ、輪廓稍扇狀ヲナシ、枝ノ末梢ノ方ハ叉狀ニシテ枝ハ概テ密ニ相接近シテ出ヅ。體ノ老成セルモノニアリテハ往々兩面ヨリ副枝ヲ生ズ；副枝ハ中肋ヨリ又ハ中肋以外ノ部ヨリ出ヅ。構造ハ極メテ緻密ニシテ細胞ハ堅ク結合シ、實ヲ熟セザル部分ノ皮層組織ハ「バレンキマ」狀ヲナセドモ、四分胞子囊及囊果アル部分ノモノハ稍緩クシテ念球珠ヲナス。囊果及四分胞子囊ハ枝ノ最末部ノ叉枝ニ集リ生ズ。色ハ濃キ紫紅色ニシテ往々黃色ヲナス。質硬キ軟骨質ニシテ紙ニ附着セズ

產地：社寮島(臺灣、池内氏)；アジンコート島(河上氏)；ホアビンスー島、琉球(黒岩氏)；二江(天草島)。果實：夏季。

分布：〔セーロン島、モーリシアス島、「ザンジバル」ノ「モンパツサ」、シンガポール(?)〕。

備考：本種ヲ査定スルニ付テハ *Carpopeltis elata* (Harv.) Schmitz ヲ比較研究シタル外今本種ノ參考ニ資スベキ標品ナク、又本種ノ圖說シタルモノト對照スルノ便ナシト雖モ、黒岩氏ヨリベローノ植物陳列館ニ送リタル標品ヲ Heydrich 氏ガ研究シテ報告シタル書中(上記引用書中列記)ニアル本種ノ番號及產地ハ黒岩氏ガ予ノ許ニ送リタルモノト同一ナルヨリ本植物ヲ研究シテ本屬ノモノト査定シタルナリ。

第 LXVI 圖版. 1: *Carpopeltis rigida* (Harv.) Schm., ちやぼきんとき、ノ實ヲ有スル體, $\frac{1}{1}$.—2: 實ナキ體, $\frac{1}{1}$.—3-4: 兩面ヨリ副枝ノ出ヅコトヲ示ス爲メ同一ノ枝ノ一部ヲ兩面ヨリ見タルモノ, $\frac{5}{1}$.—5: 中肋ノ如ク肥厚シタル體ノ下部ノ横斷面, $\frac{10}{1}$.—6: 同上ノ一部, $\frac{220}{1}$.—7: 體ノ縱斷面, $\frac{220}{1}$.—8: 囊果ヲ有スル枝, $\frac{1}{1}$.—9: 同上ノ一部ヲ

廓大シタルモノ, $\frac{5}{1}$.—10: 同上ノ一部ヲ更ニ廓大シタルモノ,
 $\frac{22}{1}$.—11: 實アル部分ノ横斷面, $\frac{54}{1}$.—12: 囊果, $\frac{220}{1}$.—13: 四分胞子群ヲ
有スル枝, $\frac{12}{1}$.—14: 四分胞子群ノ横斷面, $\frac{91}{1}$.—15: 四分胞子囊, $\frac{320}{1}$.

Carpopeltis angusta (Harv.) Okam.

Nom. Jap.: *Kintoki*.

PL. LXVII.

Gymnogongrus ligulatus var. *angustus* Harv. Char. New Alg.
No. 29.—*Cryptonemia angusta* (Harv.) Okam. New or Little known
Algae from Japan, (Bot. Mag. Tokyo, 1895, Vol. IX, No. 106), p.
478, pl. IX, fig. 8-15.—*Prionitis angusta* (Harv.) Okam. Contr.
Knowl. Mar. Alg. Japan III, (Bot. Mag. Tokyo, 1899, Vol. XIII, No.
143), p. 4; Id. Alg. Jap. Exsic. No. 34; 岡村, 日本藻類名彙, p. 90.
—*Polyopes angustus* (Harv.) De Toni Syll. Alg. IV, p. 1596.

Description. “Fronds numerous rising from a broad basal disc,
the basal portion is often almost cylindrical in older specimens, more
flattened and compressed above, 10-30 cm high. The ramification is
divaricately dichotomous, often tri-polychotomous with widely patent,
recurved and entangled segments which have rounded patent axils.
Segments are compressed and linear being 1.5-2 mm broad or
cuneate beneath forks in upper portion; in some more widened into 5
mm or more in breadth and often thickening in the median line like
a costa. Terminal segments in some are linear as in lower portion,
ending in blunt or bifid apex or slightly broadened or much more ex-
panded with round apex. Margin is in some specimens subaequal
throughout, but more frequently is constricted at different distances.
Proliferations arise from glandular elevation along margin, also from

terminal portion and more usually from harmed ends. Lateral proliferations usually remain short and roundish in fructified frond, but often elongate into more or less long branches which are more frequently the case in those issuing from the terminal portion.

“Fruits of both kinds collected in marginal proliferations in a nematheciose manner. Cystocarps are collected beneath the flattish surface of marginal roundish proliferated sporophylls; they are also found forming a roundish nemathecium beneath the apex of marginal and terminal elongated proliferations and sometimes in the similar position of terminal non-proliferous segments. Tetraspores are aggregated forming an intramarginal sorus in lateral roundish proliferations, whose margin remain sterile and is elevated into a thick rim.

“The structure of the frond is very dense; the medullary layer consists of densely aggregated shortish filamentous cells firmly united to each other by hyaline intercellular substance; the intermediate cells are of roundish angular cells which become gradually smaller above, forming a cortical layer. In the sporophyll bearing tetraspores the structure is little different; there is no evident intermediate cells and medullary layer is more loose, from which moniliform filaments arise, among which oblong tetraspores are lodged.

“Color is deep blood-red, becoming darker in drying. Substance is strongly cartilaginous becoming very stiff when dried.”—Okam. *l. c.*

Hab.: On rocks near low tide. Provs. Hiuga, Shima, Isé, Totōmi, Idzu, Sagami and Boshyu; Oshima (Idzu).

Fruits :—summer.

Remarks: De Toni puts the present species under *Polyopes* in his *l. c.* on the ground that Schmitz has referred Harvey's original species, *Gymnogongrus ligulatus*, to that genus. I think, however, it is proper to put it under the present genus from its often having



thickened midrib in the lower portion of frond and the character of fructified branchlets, having fruits of both kinds in roundish lateral branchlets as well as beneath the apex of the terminal segments, as shown in fig. 7.

PL. LXVII. Fig. 1: tetrasporic frond of *Carpopeltis angusta* (Harv.) Okam., $\frac{1}{1}$.—Fig. 2: portion of a branch having thickened midrib, $\frac{1}{1}$.—Fig. 3: cross-section of frond, $\frac{39}{1}$.—Fig. 4: longitudinal section of frond, $\frac{22}{1}$.—Fig. 5: cross-section of a tetrasporic ramulus, slightly magd.—Fig. 6: tetraspores, $\frac{24}{1}$.—Fig. 7: portion of frond bearing cystocarps, $\frac{1}{1}$.—Fig. 8: cross-section of a cystocarpic ramulus, slightly magd.—Fig. 9: cystocarp, $\frac{8}{1}$.—Fig. 10: placental cell, $\frac{24}{1}$.—Fig. 11: spore, $\frac{24}{1}$.

Carpopeltis angusta (Harv.) Okam.

きんとき。

第 LXVII 圖版.

體ハ吸盤狀附着器ヲ以テ叢生シ、扁壓ニシテ線狀、不規則ニ叉狀ニ分レ、下部往々増厚シテ稍圓柱狀ノ如クナルコトアリ、又體ノ中央部ヨリ以下ニ於テ主枝ハ中肋ノ如ク隆起ス。枝ハ所々クビレ又所々關節シタル如キ所アリテ、鈍圓ニ終リ、廣開シ、構造ハ極メテ緻密ナリ。體ノ高サハ 20-30 cm ニシテ幅 2-3 mm アリ。——四分孢子及ビ囊果ハ枝ノ兩縁ニ生ズル圓形ニシテ多肉ナル小枝ノ兩面ニ生ジ、又通常ノ枝ノ頂部ニ一區劃ヲナシテ生ズ。色ハ深キ紫紅色ニシテ往々煉瓦色ヲナスコトアリ。質ハ堅キ軟骨質ニシテ角ノ如シ、紙ニ附着セズ。



K. Okam. del.

Carpopeltis articulata Okam. ふしきんとき

產地：低潮線附近ノ岩石ニ生ズ。日向，志摩，伊勢，遠江，伊豆，相模，安房；伊豆大島。果實：夏季。

備考。本種ハ質極メテ堅クシテ角ノ如シ，房州ニテはりがねノ方言アル所以ナリ；きんときハ伊勢ノ方言ナリ，今之ニ因ル。水ニ溶解セザル故利用ノ途ナシ。

本種分類上ノ位置ニ就テハ初メ Harvey 氏之ヲ *Gymnogongrus ligulatus* ノ變種トシテ var. *angustus* トセリ。後予ハ之ヲ *Cryptonemia* ニ移シ，更ニ *Prionitis* ニ革メタルコトハ上記引用書中ニ見ル所ナリ。然ルニ，De Toni 氏ハ Harvey 氏ノ原種 *Cryptonemia ligulatus* ガ Schmitz ニ由テ *Polyopes* 屬中ニ配セラレタリトノ故ヲ以テ本種モ亦之ヲ *Polyopes* 屬中ニ收メタリ。然レドモ，予ヲ以テ見ルニ，本種ハ其中肋ヲ有スルコト並ニ實ヲ有スル部ガ枝ノ兩縁ヨリ生ズル小枝並ニ常態ノ枝ノ頂端ノ下ニ集ルコトノ性質ヨリ之ヲ *Carpopeltis* ニ容ル、ヲ至當ト思考スルモノナリ；故ニ今之ヲ革ム。

第 LXVII 圖版。1: 四分胞子ヲ有スル *Carpopeltis angusta* (Harv.) Okam., きんとき，ノ自然ノ狀態， $\frac{1}{1}$ —2: 中肋ヲ有スル枝， $\frac{1}{1}$ —3 體ノ横斷面， $\frac{390}{1}$ —4: 體ノ縦斷面， $\frac{220}{1}$ —5: 四分胞子ヲ有スル小枝ノ横斷面，少シク廓大—6: 四分胞子， $\frac{240}{1}$ —7: 囊果ヲ有スル體ノ一部， $\frac{1}{1}$ —8: 囊果ヲ有スル小枝ノ横斷面，少シク廓大—9: 囊果， $\frac{85}{1}$ —10: 胎座， $\frac{240}{1}$ —11: 果胞子， $\frac{240}{1}$ 。

Carpopeltis articulata Okam.

Nom. Jap.: *Fushi-kintoki*.

PL. LXVIII.

Prionitis articulata Okam. Contr. Knowl. Mar. Alg. of Japan III, (Bot. Mag. Tokyo, 1899, Vol. XIII, No. 143), p. 4, pl. I, f. 3-4; De Toni Syll. Alg. IV, p. 1590; 岡村, 日本藻類名彙, p. 91.

Hab.: In deep water. Provs. Mikawa, Shima.

Remarks: From the resemblance of the external appearance of the present plant with *Prionitis Andersoniana* Eaton I formerly referred it to *Prionitis*. It, however, resembles, on one hand, to *Carpopeltis elata* Okam. (illustrated on the next plate) in the substance, structure and sporophylls; while, on the other, to *C. angusta* (Harv.) Okam. in the habit, substance and structure. As consequence I now put the plant in question in *Carpopeltis*.

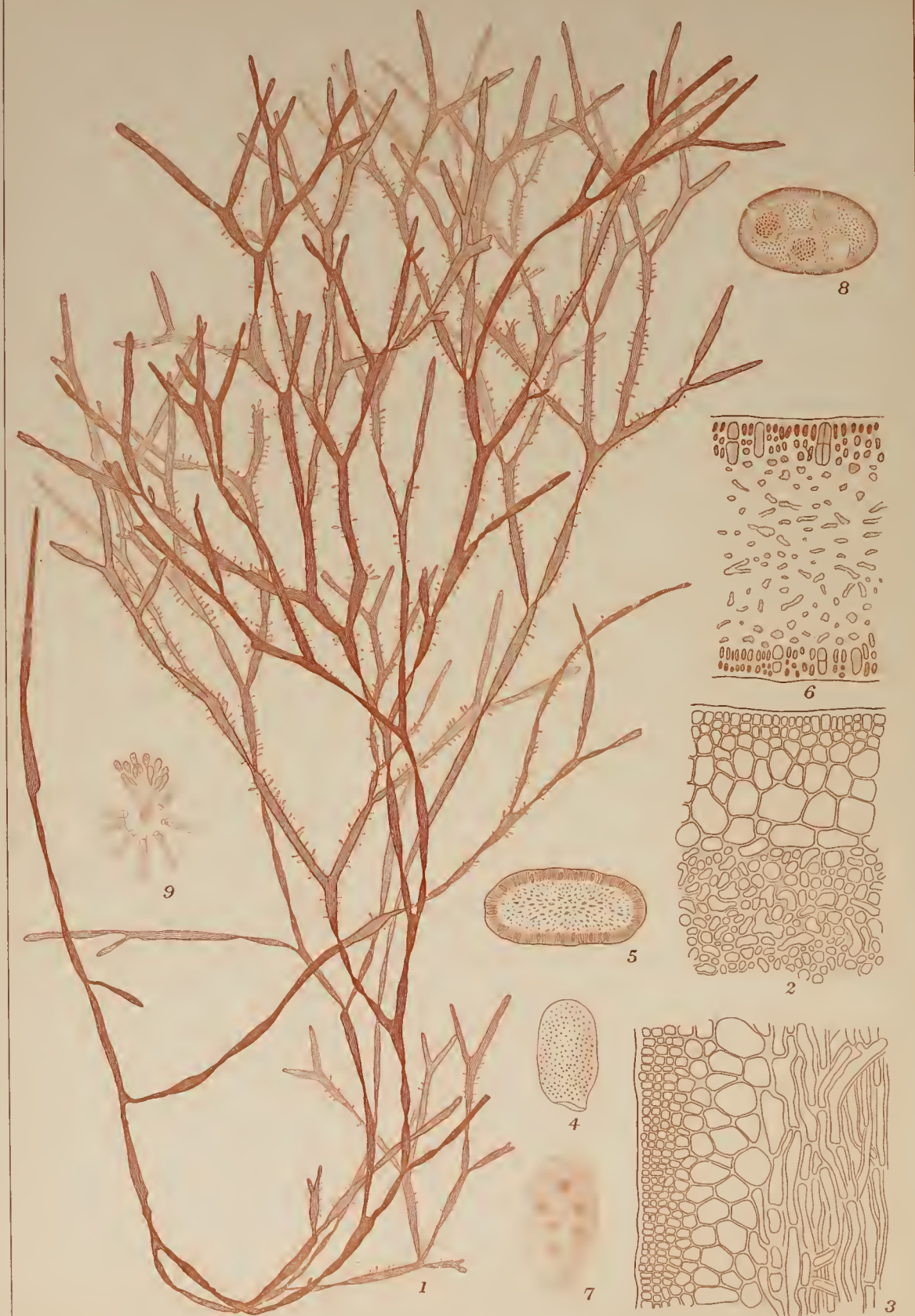
PL. LXVIII. Fig. 1: sterile frond of *Carpopeltis articulata* Okam., $\frac{1}{1}$.—Fig. 2: another form of the same, $\frac{1}{1}$.—Fig. 3: cross-section of the frond, $\frac{390}{1}$.—Fig. 4: longitudinal section of the frond, $\frac{390}{1}$.—Fig. 5: portion of a branch bearing tetrasporic sporophylls, $\frac{1}{1}$.

Carpopeltis articulata Okam.

き ん と き.

第 LXVIII 圖版.

體ハ厚クシテ扁平, 下部僅ニ莖ヲナシ, 枝ノ縁邊並ニ頂端ヨリ屢々不規則ニ叉狀ニ分岐シ, 15-20 cm ニ達ス. 各部ハ強ククビレ, 節間部ハ楔形, 楕圓形又ハ棍棒狀ヲナシ, 2-3 cm 長



K. Okam. del.

9 1 4 7 5 2 6 8 3

Carpopeltis elata Okam. ながきんとき

ク、3-7 mm 潤シ。——四分孢子囊ハ各部ノ表面並ニ兩縁ヨリ澤山ニ生ズル薄クシテ小サキ、圓キ又ハ小判形ノ成實葉ニ群集ス。 囊果...色ハ濃キ紫紅色ナリ。 質硬キ軟骨質ニシテ、乾燥スルトキハ殆ド角ノ如シ。

產地：深所ニ生ズ。 三河伊良湖岬、志摩。

囊ニ予ハ本植物ノ外形上 *Prionitis Andersoniana* Eaton ニ類スル所アルヲ以テ之ヲ *Prionitis* 屬中ニ置キタリ。 然レドモ、本植物ハ一方ニハ其體質、構造並ニ成實葉ノ點ニ於テ *Carpopeltis elata* Okam. (次ノ圖版ニ圖說セルモノ) ニ酷似シ、又一方ニハ體ノ容子ト構造並ニ體質トノ點ニ於テ *C. angusta* (Harv.) Okam. 即チ、ちやばきんとき、ニ類スル所アリ；故ヲ以テ予ハ今之ヲ *Carpopeltis* 屬中ニ置ク。

第LXVIII圖版。 1: 實ナキ *Carpopeltis articulata* Okam., ふしきんとき、ノ實, 1.—2: 細キふしきんときノ體形, 1.—3: 體ノ横斷面, $\frac{390}{1}$ 。—4: 體ノ縦斷面, $\frac{390}{1}$ 。—5: 四分孢子群ヲ有スル成實葉ヲ生ジタル枝ノ一片, 1。

Carpopeltis elata Okam.

Nom. Jap.: *Naga-kintoki*.

PL. LXIX.

Prionitis elata Okam. Contr. Knowl. Mar. Alg. of Japan III (Bot. Mag. Tokyo, 1899, Vol. XIII, No. 143), p. 8, pl. I, f. 1-2; De Toni Syll. Alg. IV, p. 1590; 岡村, 日本藻類名彙, p. 90.



Hab.: On rocks, shells and stones in deeper waters. Provs. Sagami, Boshyu, Kadzusa, Hitachi. Fruits: summer.

Remarks: From the reason stated under the last plant, *Carpopeltis articulata* Okam., I now put the present species in this genus.

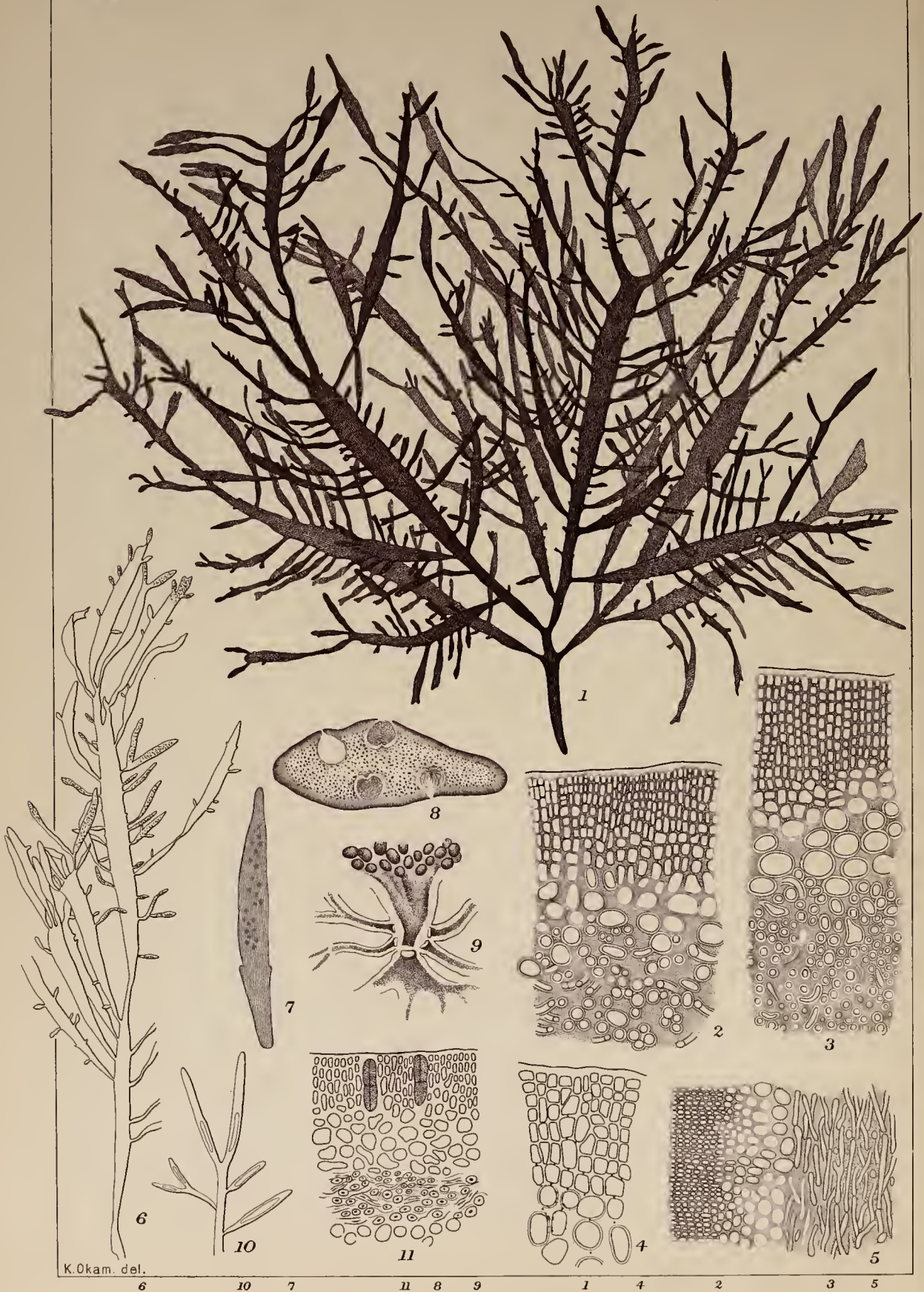
PL. LXIX. Fig. 1: fructified frond of *Carpopeltis elata* Okam., $\frac{1}{1}$.—Fig. 2: cross-section of the frond, $\frac{390}{1}$.—Fig. 3: longitudinal section of the frond, $\frac{390}{1}$.—Fig. 4: tetrasporic sporophyll, $\frac{22}{1}$.—Fig. 5: cross-section of a tetrasporic sporophyll, $\frac{54}{1}$.—Fig. 6: portion of the same as fig. 5, $\frac{220}{1}$.—Fig. 7: cystocarpic sporophyll, $\frac{16}{1}$.—Fig. 8: cross-section of a cystocarpic sporophyll, $\frac{42}{1}$.—Fig. 9: placental cell with surrounding filaments, $\frac{220}{1}$.

Carpopeltis elata Okam.

な が き ん と き.

第 LXIX 圖版.

體ハ 20-50 cm 高ク、叢生シ、線狀、扁壓ニシテ兩縁ニ薄ク、上部ハ稍扁平ニシテ、屢々叉狀ニ分岐ス。各部ハ線狀ニシテ、幅 1.5-2.5 mm アリ、長キ巨維ニ於テ同一ノ幅ヲ有スルカ或ハ其處此處クビレテ、腋圓ク、廣開シ、枝端鈍頭ニ終リ又ハ二裂ス。副枝ハ枝端並ニ兩縁ヨリ生ジ、外形並ニ質トモ他ノ部ト異ナラズ。成實葉ハ小ニシテ薄ク、倒卵形又ハ小判形ニシテ、基部ノ方ニ細ク、枝ノ兩縁ヨリ列ビテ出デ、罕ニ兩面ヨリ生ズ。其落ルヤ小サキ突起ヲ殘存ス。質ハ硬キ軟骨質ニシテ、乾燥スルトキハ殆ド角ノ如シ。鮮紅色。



Prionitis patens Okam. ひらきんとき

產地：深キ海底ノ岩石，小石，貝殻等ニ生ズ。 相模，房総，
上總，常陸。

備考：曩ニ予ハ *Carpopeltis angusta* (元ト *Prionitis* ニ屬セルモノ)
ニ類スルノ故ヲ以テ本種ヲ *prionitis* 中ニ置キタレドモ，今前種
Carpopeltis articulata Okam., ふしきんとき，ノ條下ニ論ジタル理由
ヨリ之ヲ *Carpopeltis* ニ入ル。

第LXIX圖版. 1: *Carpopeltis elata* Okam., ながきんとき，ノ實
ヲ有スル體， $\frac{1}{1}$.—2: 體ノ横斷面， $\frac{390}{1}$.—3: 體ノ縦斷面， $\frac{390}{1}$.—4:
四分胞子ヲ有スル成實葉， $\frac{22}{1}$.—5: 全上ノ横斷面， $\frac{54}{1}$.—6: 全上
ノ一部， $\frac{220}{1}$.—7: 囊果ヲ有スル成實葉， $\frac{16}{1}$.—8: 全上ノ横斷面，
 $\frac{42}{1}$.—9: 胎座細胞ト其周圍ヲ包ム絲狀細胞， $\frac{220}{1}$.

Prionitis patens Okam.

Nom. Jap.: *Hira-kintoki*.

PL. LXX.

Prionitis patens Okam. Contrib. Knowl. Marine Alg. Jap. III,
(Bot. Mag. Tokyo, Vol. XIII, No. 143, 1899), p. 3, Pl. I, f. 18-20; De
Toni Syll. Alg. IV, p. 1592; 岡村, 日本藻類名彙, p. 90.

Description Frond plano-compressed, broadly linear, shortly
stipitate, 2-3 times pinnate by repeated proliferations with a few
dichotomous segments, 10-20 cm in height. Branches very patent
or almost horizontal, distichous, narrowed towards the base and
constricted at different intervals giving the appearance of linear lan-

ceolate or oblanceolate form in the broader ones, 2.6 mm in breadth. Proliferations are minute teeth-like processes at the beginning, which grow up into oblong or linear-oblanceolate leaflets. They are either simple or forked and gradually pass into branches similar to the remaining. They arise pinnately from margins and often radiately from apex. Branches of every order end in ligulate or not-strongly acute apex, and are often forked or sometimes become irregularly dichotomous.—Fruits of both kinds densely collected in lateral leaflets and terminal segments: tetraspores forming linear oblong sori; cystocarps, minute dot-like, slightly prominent. Substance soft cartilaginous and the plant does not adhere to paper in drying. Colour a dull brownish red, becoming darker in drying.

Hab.: Boshyu, Sagami, Idzu, Mikawa, Shima.

PL. LXX. Fig. 1: fructified frond of *Prionitis patens* Okam. in nat. size.—Fig. 2-3: cross-section of frond, $\frac{390}{1}$.—Fig. 4: cortical portion of the same as fig. 2, showing arrangement of cells, $\frac{600}{1}$.—Fig. 5: longitudinal section of frond, $\frac{220}{1}$.—Fig. 6: portion of frond bearing cystocarps, $\frac{1}{1}$.—Fig. 7: portion of branch bearing cystocarps, $\frac{3}{1}$.—Fig. 8: cross-section of a branch bearing cystocarps, $\frac{42}{1}$.—Fig. 9: placental cell with filaments surrounding the nucleus, $\frac{390}{1}$.—Fig. 10: piece of branch bearing tetrasporic sori, slightly magd.—Fig. 11: cross-section of a tetrasporic sorus, $\frac{220}{1}$.



Prionitis J. Agardh, 1851.

ひらきんとき属.

GRATELOUPIACEAE. むかでのり科.

體ハ扁平,線狀,叉狀又ハ羽狀ニ分岐シ,往々兩縁ヨリ,時トシテハ表面ヨリ副枝ヲ生ジ,多肉一軟骨質ニシテ,極メテ明ナル絲組織ヲ以テ成ル: 髓ハ可ナリ厚クシテ細キ絲ヨリ成リ可ナリ密集ス内皮層ハ内方ニハ稍緩クシテ髓ト界シ,外方ニハ密ニシテ圓キ細胞ヨリ成リ,時トシテハ稍大ナル細胞ヨリ成ル;外皮層ハ小細胞ニテ成リ,表面ニ直角ニ縦ニ列ス.——四分胞子囊ハ特ニ大ナル又ハ小ナル小羽枝ニ形成セラレ,小羽枝ハ枝ノ兩縁ヨリ生ジ成實葉ヲナシ,其表面ニチマセシア狀ノ群ヲナシ,十字狀ニ分裂ス. 囊果ハ全面ニ散在シ或ハ特ニ實ヲ生ズベキ小羽枝ニ限ラレテ生ジ,全ク埋リ,多少髓部ノ方ニ達ス;仁ヲ被包スル絲組織ハ僅ニ形成セラル.

米國ノ西岸ナル太平洋沿岸ニ約6-8種アリ. 其模範種タル *Pr. lanceolata* J. Ag. (*Gelidium lanceolatum* Harvey) ハカリフォルニアノ沿岸ニ生ズ.——此屬ハ分類上尙ホ精細ノ研究ヲ要スルモノアリ.

屬ノ名ハ *Prion* (鋸齒)ヨリ成ル.

Prionitis patens Okam.

ひらきんとき.

第 LXX 圖版.

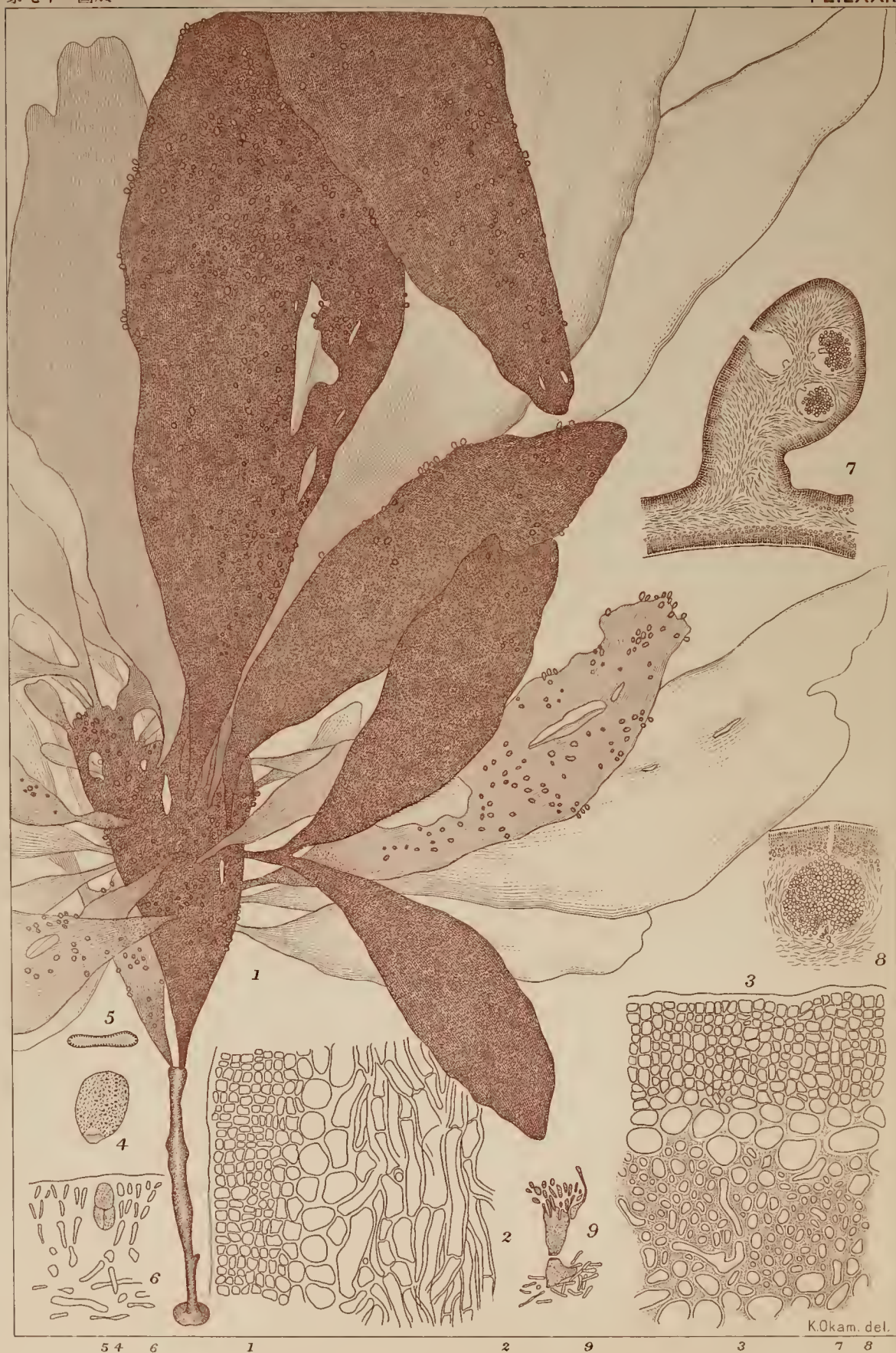
體ハ 10-20 cm 高ク,扁平ニシテ,稍潤キ線狀ヲナシ,短莖ヲ有シ,二三回羽狀ニ分岐シ,其處此處ニ叉狀ノ部分アリ. 枝ハ甚シク廣開シ,或ハ兩縁ヨリ殆ド水平ニ出デ,基部ノ方ニ細ク,所々

クビレ, 線狀一披針狀又ハ廣キ部分ニテハ倒披針狀ヲナシ, 2-6 mm 濶シ. 副枝ハ單條又ハ分叉シ, 始メハ小ナキ齒狀ナリ. 各部ノ枝ハ舌狀ニ終リ, 或ハ甚シク尖ラズシテ往々分叉シ, 時ニ或ハ不規則ニ叉狀ヲナス. 實ハ兩縁ヨリ生ズル小羽枝ニ生ジ, 四分胞子ハ線狀ノ群ヲナシ, 囊果ハ小サキ點狀ヲナシテ少シク隆起ス. 質ハ軟キ軟骨質ニシテ乾燥スルトキハ紙ニ附着セズ; 體ノ構造ハ緻密ナリ. 色ハ暗紫紅色ニシテ, 乾燥スルトキハ濃紅色トナル.

產地: 房州, 相模, 伊豆, 三河, 志摩.

第LXX圖版. 1: *Prionitis patens* Okam., ひらきんとき, ノ實ヲ有スル體, $\frac{1}{1}$.—2-3: 體ノ橫斷面, $\frac{390}{1}$.—4: 同上ノ外皮部ニシテ其細胞ノ列ビ方ヲ示ス, $\frac{600}{1}$.—5: 體ノ縱斷面, $\frac{220}{1}$.—6: 囊果ヲ有スル體ノ一部, $\frac{1}{1}$.—7: 囊果ヲ有スル枝ノ一部, $\frac{3}{1}$.—8: 同上ノ橫斷面, $\frac{42}{1}$.—9: 胎座細胞ト仁ノ周圍ヲ包ム絲狀細胞, $\frac{390}{1}$.—10: 四分胞子群ヲ有スル枝ノ一片, 廓大.—11: 四分胞子群ノ橫斷面, $\frac{220}{1}$.





Cryptonemia Schmitziana Okam. おほばきんとき

Cryptonemia Schmitziana Okam.

Nom. Jap.: *Ohba-kintoki*.

PL. LXXI.

Prionitis Schmitziana Okam. Contr. Knowl. Mar. Alg. Jap. III, p. 6, (Bot. Mag. Tokyo, Vol. XIII, No. 143, 1899); De Toni Syll. Alg. IV, p. 1590; 岡村, 日本藻類名彙 p. 91.—*Cryptonemia Wilsoni* (non. J. Ag.) Okam. New or little known Alg. Jap., p. 8, pl. IX, f. 16-22 (Bot. Mag. Tokyo, Vol. IX, No. 106).

Diagn.: “Frond high, stipitate, leathery, deep-red, without midrib, branching by repeated proliferations from margin and apex as well as from the surfaces; with segments leaf-like, broadly lanceolate, simple or forked and pedicellated, either entire or wasted at margin. Fruits of both kinds collected in sporophylls, densely arising from margin and surfaces. Tetraspores in thinner, minute, roundish-oblong sporophylls. Cystocarps in similar but thicker ones.”—Okam. *l.c.*

Hab.: On rocks in deep water. Shima, Mikawa, Sagami.

Descrip.: “Fronds either solitary or coespitose, arising from a common scutate disc, cuneato-lanceolate in their very young stage, having a short thickened stem. This primary lanceolate form rarely persists; more usually, as the frond grows in thickness, it is wasted off at its upper portion and then it assumes a broad wedge shape. Proliferations arise from harmed ends, margins and surfaces. They are when fully formed broadly lanceolate, with acute or blunt apex and entire margin, tapering below into cuneate base and furnished with short pedicels. They are mostly simple, but sometimes forked near the base, and become in age wasted at their upper portion. Younger proliferations are naked, but in older, again loaded with

another sort of proliferations. As the frond advances in age, the older segments thicken very much and they are often broken up longitudinally by waves or injured by certain animalcules, and as the destruction more and more proceeds from such injured portions, they become much narrower. In such an older frond, the originally broad segment is torn up into some numbers of parts which appear like narrower branches. Among my specimens, I have observed an old one which has segments proliferated 3-4 times. The duration of plant, as the consequence of such a mode of growth, is at least biennial; for in specimens which I have collected at Enoshima in March, younger proliferations have arisen from the older segments. Sporophylls are developed from older portion of frond."—Okam. *l.c.*

In older fronds, the lower stem-like portion of frond thickens along the median line appearing like an insignificant costa. The frond often attains the height of 40 cm or more and the breadth of rachis *i. e.* primary frond is usually 2-3 cm. Proliferations attain the length of some 22 cm by 1.5 cm.

The structure of frond is dense, consisting of three layers of cells; the medullary, of densely interwoven short filaments; the intermediate, of a few layers of large roundish cells, often elongating tangentially; the cortical, of vertically seriated subcubic cells, arranged not in dichotomous filaments. The cells of intermediate and medullary layer are filled with highly refractile substance.

At first I took the present plant for *Cryptonemia Wilsoni* J. Ag, Next I referred it to *Prionitis* from the similarity of sporophylls with those of *Prionitis articulata* Okam. (now classed under *Carpopeltis*. p. 70, pl. LXVIII). But the leafy character of the frond and costa-like thickening of lower portion of older frond of the present plant make us consider it to be correct to put it under *Cryptonemia*.

PL. LXXI. Fig. 1: fructified frond of *Cryptonemia Schmitziana*

Okam., 1.—Fig. 2: portion of a longitudinal section of the frond, $\frac{390}{1}$.—Fig. 3: portion of a cross-section of the frond, $\frac{390}{1}$.—Fig. 4: sporophyll bearing tetraspores, slightly magd.—Fig. 5: cross-section of the same as fig. 4, slightly magd.—Fig. 6: tetrasporangium, $\frac{240}{1}$.—Fig. 7: longitudinal section of a cystocarpic sporophyll, slightly magd.—Fig. 8: cystocarp, $\frac{28}{1}$.—Fig. 9: placental cell, $\frac{240}{1}$.

Cryptonemia J. Agardh 1842.

か く れ い と 属.

GRATELOUPIACEAE. む か で の り 科.

體ハ下部莖狀ヲナシ,上部ハ扁平ニシテ薄キ葉狀トナリ,分裂スルコトナク或ハ(叉狀又ハ掌狀ニ)分裂シ,葉狀部ニハ單條又ハ掌狀ヲナセル中肋ヲ存ス;中肋ハ漸次上方ニ消失シ,罕ニハ僅ニ之ヲ認ムベク或ハ全ク之ヲ缺ク. 葉狀部ニ於テハ後其中肋又ハ害ヲ被リタル縁邊等ヨリ同様ノ部分ヲ副出シ,其老成スルニ至ルトキハ中肋以外ノ部分漸ク腐朽スルモノアルガ爲メニ,斯ノ如キモノニアリテハ中肋ハ漸次單條又ハ分岐セル幹ノ如クナル;斯クテ副出セル部分ハ往々他ノモノヨリ小ニシテ後之ニ實ヲ熟ス. 體ノ構造ハ可ナリ緻密ニシテ堅牢ナリ:髓層ハ厚クシテ,網羅セル細キ絲狀細胞ノ組織ヲ以テ成リ;皮層ハ極メテ密ニ組成セラレ,内部ニハ稍大ナル細胞ヨリ成リ,外部ニハ小ナル細胞ヨリ成リテ特ニ明ナル細胞列ヲナスコトナシ;細胞間ヲ結合セル物質ハ強靱ナリ.—四分胞子囊及ビ囊果ハ小サキ葉狀部ニ限ラレテ生ジ,此部ハ概チ小ニシテ又概チ葉ノ縁邊ニ在リ. 四分胞子囊ハ成實葉ノ皮部甚シク厚クナリテ「チマセシア」狀ヲナセル處ニ散在シ,十字様ニ分裂ス. 囊果ハ概チ數多ノ群集ヲナシテ成實葉ノ内皮部ニ集リ,時トシテハ只其面ニ近ク散在スルノミナリ,而シテ甚ダ小ニシテ,其局部甚シク弛緩セル組織ノ中ニ在リテ髓層ノ

方ニ達シ、其部ノ外皮ハ外部ニ隆起ス；仁ノ周圍ノ包被組織ハ左ノミ著シカラズ。

約六種程アリテ諸所ノ暖海ニ産ス。模範種ナル *Cryptonemia Lomation* (Bertoloni) J. Agardh ハ地中海及アドリアチック海ニ産ス；本邦亦二種アリ。

屬ノ名ハ *Cryptos* (隠レタル) ト *nema* (絲) トヨリ成ル；即チ體ノ構造ニ因レルモノナリ；屬ノ和名モ亦此義ニ因ル。

Cryptonemia Schmitziana Okam.

おほばきんとき。

第 LXXI 圖版.

性質：體ハ高く、莖ヲ有シ、膜質乃至革質ニシテ濃キ血紅色ナリ、中肋ナク、縁邊頂端並ニ兩面ヨリ屢々枝ヲ副出シテ分岐ス；各部ハ葉狀ニシテ、濶キ披針狀ヲナシ、單條又ハ分叉シ、各短キ柄ヲ有シ、全縁又ハ縁邊破損ス。四分孢子及囊果ハ成實葉ニ集リ、成實葉ハ縁邊及ビ兩面ヨリ生ズ。四分孢子ハ薄クシテ小サキ圓形—小判形ノ成實葉ニ生ズ。囊果ハ同様ノ稍多肉ナル成實葉ニ生ズ。

產地：深所ノ岩石上ニ生ズ。志摩、三河、相模。

記載：體ハ單獨又ハ叢生シ、扁平盤狀ノ附着器ヨリ立チ、其始ハ楔形又ハ披針狀ニシテ短キ太キ莖ヲ有ス。此始原ノ披針狀體ハ罕ニハ永續スレドモ、通常ハ、體ノ肥厚スルニ隨テ上部缺損シ、之ガ爲ニ濶キ楔形ヲナスニ至ル。體ノ害ヲ受ケタル部分並ニ縁邊及ビ兩面ヨリ副枝ヲ生ズ。副枝ハ充分伸長シタルトキハ濶キ披針狀ニシテ、頂端尖銳又ハ鈍圓、全縁ニシテ下部楔形ヲナシ、短キ柄ヲ有ス；而シテ概チ單條ナレドモ、時トシテハ基部ノ方ニ分叉シ、齡ト共ニ上部缺損ス。幼

キ副枝ハ枝ヲ生ズルコトナシト雖モ、其老成スルニ至レバ又更ニ副枝ヲ生ズルニ至ル。斯クテ、體ノ成長スルニ隨ヒ、老成部ハ甚シク増厚シ、往々波ノ爲メ又ハ或小動物ノ爲ニ害セラレテ堅ニ裂ケ、之ガ爲ニ甚シク狹細ナルニ至ル。老成セル體ノ下部ハ往々中央部増厚シテ恰モ微カニ中肋ヲ有スル莖ノ如クナルモノアリ。斯ノ如キ老成體ニ於テハ元來濶カリシ部分ハ數個ニ裂ケテ細キ枝ノ如クナルコトアリ。予ノ有スル標品中三四回副出シタルモノアリ。體ノ成長ノ方法斯ノ如クナルヲ以テ、其生命ハ少ナクトモ二年生ナリ；何トナレバ三月相州江ノ島ニテ採集シタル標品中、厚クナリタル老成部ヨリ幼キ部分ヲ副出シタルモノヲ得タレバナリ。成實葉ハ體ノ老成セル部分ヨリ發生ス。體ノ高サ往々40 cm 餘ニ達シ、始原ノ體ノ幅ハ通常2-3 cm アリ。副枝ハ1-5 cmノ幅ニテ22 cm 程ノ長サニ達ス。

體ノ構造ハ緻密ニシテ三層ヨリ成ル：髓部ハ密ニ錯綜セル短キ絲狀細胞ヨリ成リ；中層ハ二三層ノ大ナル圓形細胞ヨリ成リ、往々體ノ表面ニ並行ニ伸ブ；皮層ハ稍正方形ノ小細胞堅ニ列スルモノヨリ成レドモ、叉狀ノ列ヲナサズ。中層及髓層ノ細胞ハ強ク屈光スル物質ヲ以テ充タサル

初メ予ハ本植物ヲ *Cryptonemia Wilsoni* J. Ag. ナリト思ヒ之ヲ植物學雜誌(上記引用書中列記)ニ載セタリ。次ニ、予ハ *Prionitis articulata* Okam. (今 *Carpopeltis* ニ移セルモノ、第70頁、第LXVIII圖版)ノ成實葉ト本植物ノモノト相類スル所アルヨリ之ヲ *Prionitis* ニ配セリ。然レドモ本植物ノ體ノ葉狀ナルト老成セル體ノ下部ノ中肋ノ如キ厚ミヲ生ズルトヨリ之ヲ *Cryptonemia* 屬中ニ置クヲ至當ト思考ス。

第LXXI圖版 1: *Cryptonemia Schmitziana* Okam. ノ實ヲ有スル體、1-2: ノ縱斷面ノ一部、 $\frac{390}{1}$ 。—3: 體ノ橫斷面ノ一部、 $\frac{390}{1}$ 。—



4: 四分胞子ヲ有スル成實葉, 少シク廓大.—5: 同上ノ横斷面, 少シク廓大.—6: 四分胞子, $\frac{240}{1}$.—7: 囊果ヲ有スル成實葉ノ縦斷面, 少シク廓大.—8: 囊果, $\frac{28}{1}$.—9: 胎座細胞, $\frac{240}{1}$.

Desmarestia ligulata (Lightf.) Lamour.

Nom. Jap.: *Urushi-gusa*.

PL. LXXII; PL. LXXV, Fig. 1-4.

Desmarestia ligulata (Lightf.) Lamour. Essai p. 25; Harv. Phyc. Brit. f. 115; J. Ag. Sp. Alg. I, p. 169 (*var. ligulata*); Kütz. Sp. Alg. p. 572; Id. Tab. Phyc. IX, t. 99, f. 2; Johnstone and Croall British Seaweeds pl. 142; De Toni. Syll. Alg. III, p. 460; 岡村, 日本藻類名彙, p. 121.—*Desmia ligulata* Lyngb. **Hydrophyt.** Dan. p. 33, t. 7; Turn. Hist. Fuc. t. 98.

Hab.: Hakodate; Kuwagasaki (Prov. Rikuchū); Kinkwazan and Kesenuma (Prov. Rikuzen); Prov. Iwaki; Kawadziri and Ōtsu (Prov. Hitachi).

PL. LXXII. Fig. 1: lower and upper portions of a fully-grown frond of *Desmarestia ligulata* (Lightf.) Lamour., $\frac{1}{1}$.—Fig. 2: portion of a young frond, $\frac{1}{1}$.—Fig. 3: branchlet slightly magd.

PL. LXXV, Fig. 1-4. Fig. 1: midrib and veins of a branchlet, $\frac{54}{1}$.—Fig. 2: growing apical portion of a branchlet showing the formation of the cortical layer, $\frac{600}{1}$.—Fig. 3: cross-section of an older portion of branch, $\frac{22}{1}$.—Fig. 4: portion of the longitudinal section of a branch; α , axis, $\frac{220}{1}$.

Desmarestia ligulata (Lightf.) Lamour. 1)

うるしぐさ.

第 LXXII 圖版; 第 LXXV 圖版, 1-4 圖.

體ハ扁平, 膜質, 葉狀ニシテ, 幅濶キ線狀ヲナス, 下部老成スルトキハ殆ド圓柱狀ノ莖ヲナス, 而シテ兩緣ヨリ羽狀ニ分歧シ, 羽枝更ニ小羽枝ヲ出シ, 枝ヲ分ツコト三回ニ及ブ; 高サ 60-100 cm 餘ニ達シ, 各部ノ幅 3-6 mm アリ, 莖ノ太サ亦 3 mm ニ達ス. 枝ノ幼キモノハ其頂端並ニ兩緣ヨリ單列ノ細胞ニテ成レル毛ヲ生ジ, 其毛ノ基部ノ細胞漸次分裂シテ之ヲ蔽ヘル皮層細胞ヲ形成スル狀第 LXXV 圖版 第 2 圖ニ於テ見ルベシ; 毛ハ即チ中軸及ビ中軸ヨリ左右ニ出ル脉ノ游離部ニシテ, 體ノ成長ハ此毛ノ介生分裂 (intercalary cell-division) ニ依リテ成ル; 毛ハ後早ク脱落シテ, 枝ハ兩緣ニ鋸齒狀ヲナス. 各部ノ枝ハ中肋ヲ存シ, 中肋ヨリ左右ニ側脉ヲ對生シ, 枝ハ之ガ爲ニ對生シ且相互ニ接近シテ出ヅ. 小羽枝ノ形狀ハ長橢圓形又ハ線狀—披針狀ニシテ, 枝ハ總テ基部細ク, 頂端亦細シ. 單子囊ハ皮層中ニ埋在シ或ハ介生的ニ小羽枝ニ生ズ. 色ハ其生時ノモノヲ詳ニセズト雖モ, 多分栗色ナルベク概チ少シク青味アル黄褐色ヲ呈スルヲ見ル. 質膜質ニシテ柔軟, 乾燥スルトキハ紙ニ附着セズ, 粘質ナシ.

產地: 多分潮線間ニ生ズルナルベシ. 函館; 陸中鍬ヶ崎; 陸前岩井岬, 氣仙沼, 金華山; 磐城; 常陸(川尻, 大津).

分布: フエーレース島(太西洋), チンギン(北亞弗利加), チリー(太平洋) ケープホルン.

本種並ニ次ニ圖スル けうるしぐさ ハ一旦其附着スル所ヨリ脱離サル、トキハ忽チ色ヲ變ジ且澁味ヲ出ス性アリ; 故ヲ

1) *Desmarestia* 屬ノ性質ハ p. 190 ニ在リ.

以テ、魚網ニ罾ル、トキハ網絲ノ色ヲ脱色セシム。特ニ利用ノ途ナシ。うるしぐさノ名ハ陸中ノ方言ニシテ、予ハ其生時ノ色ヲ詳ニセザレドモ、多分たばこぐさと同様栗色ノ如キ光澤アルニ因ルモノナルベシト思惟ス。

第 LXXII 圖版. 1: *Desmarestia ligulata* (Lightf.) Lamour., うるしぐさ, ノ充分成長シタル體ノ上部ト下部, $\frac{1}{1}$.—2: 幼キ體ノ一部, $\frac{1}{1}$.—3: 小羽枝ヲ少シク廓大シタルモノ。

第 LXXV 圖版, 1-4 圖. 1: 小羽枝ノ中軸並ニ側脉, $\frac{54}{1}$.—2: 小羽枝ノ成長端ニシテ毛ノ基部ノ細胞分裂シテ皮層ヲ形成スルヲ示ス, $\frac{600}{1}$.—3: 稍老成セル枝ノ横斷面, $\frac{22}{1}$.—4: 枝ノ縦斷面ノ一部; α 中軸, $\frac{220}{1}$.

Desmarestia viridis (Muell.) Lamour.

Nom. Jap.: *Ké-urushi-gusa*.

PL. LXXIII; PL. LXXV, Fig. 5-6.

Desmarestia viridis (Muell.) Lamour. Essai p. 43; Kuetz. Sp. Alg. p. 570; Id. Tab. Phyc. IX, t. 92; Harv. Phyc. Brit. t. 312; De Tnoi Syll. Alg. III, p. 456; 岡村, 日本藻類名彙, p. 120.—*Dichloria viridis* J. Ag. Sp. Alg. I, p. 164; Kjellm. Alg. Arct. Sea p. 263.—*Fucus viridis* Turn. Hist. Fuc. t. 97.—*Gigartina viridis* Lyngb. Hydrophyt. Dan. p. 44.

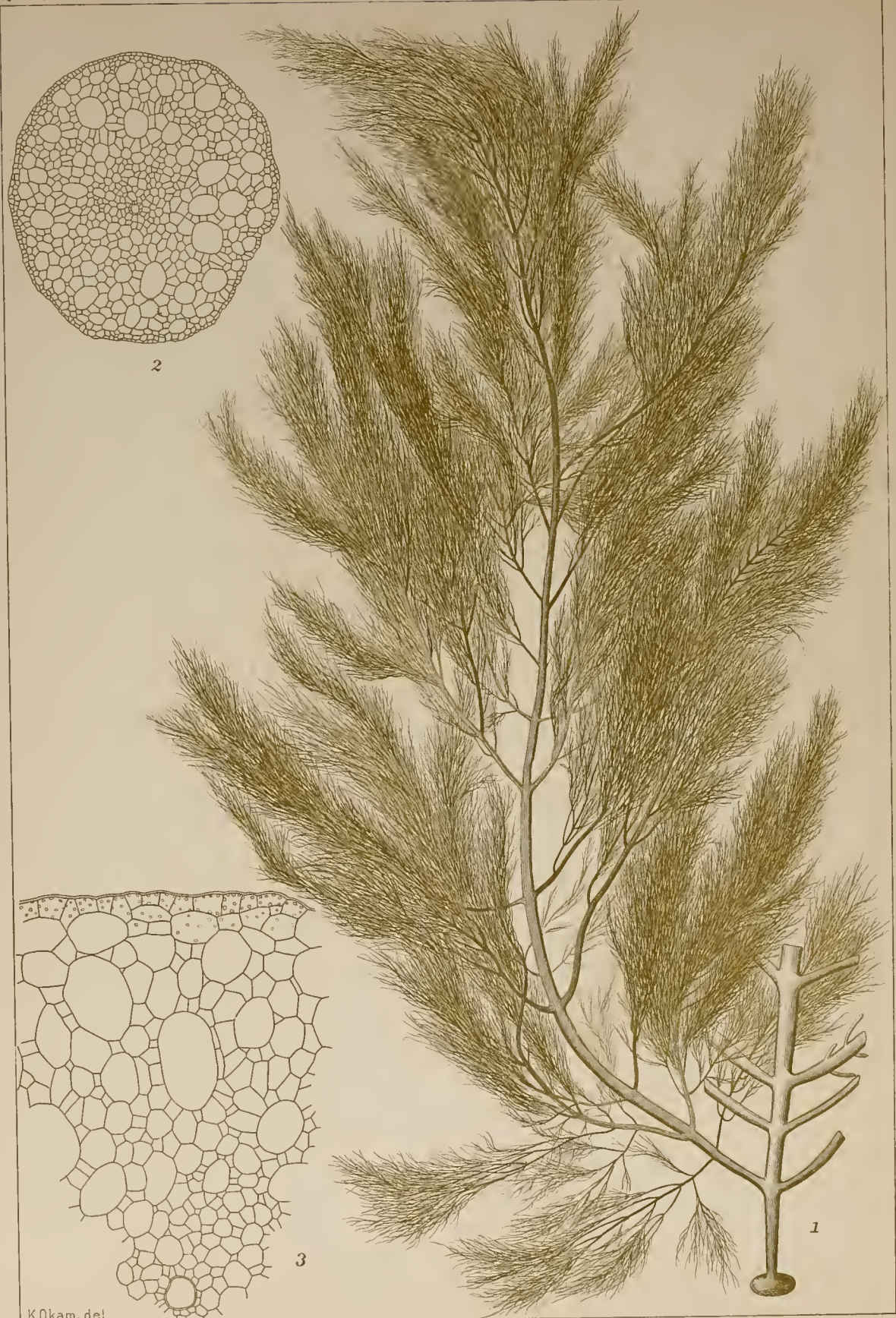
Hab: Kamoito (Prov. Teshiwo), Nemuro, Hakodaté; Prov. Rikuzen; Prov. Iwaki; Shinagawa (near Tokyo); Prov. Mikawa; Prov. Shima; Shin-hama (Prov. Iyo); Ōmigawa (Prov. Echigo).

PL. LXXIII. Fig. 1: portion of a fully grown frond of *Desmarestia viridis* (Muell.) Lamour., $\frac{1}{1}$.—Fig. 2: cross-section of the stem, $\frac{54}{1}$.—Fig. 3: portion of the cross-section of stem, $\frac{157}{1}$.

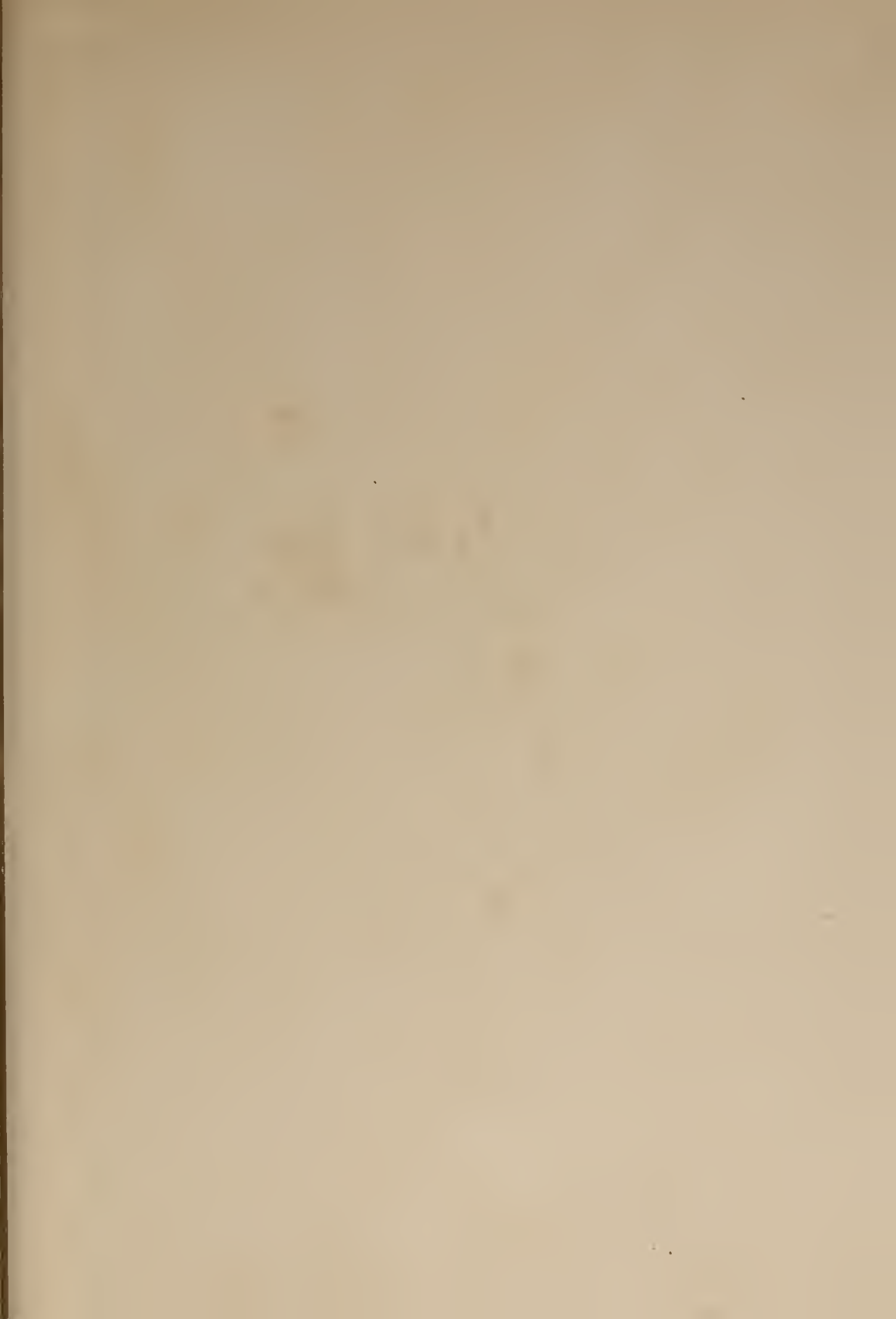


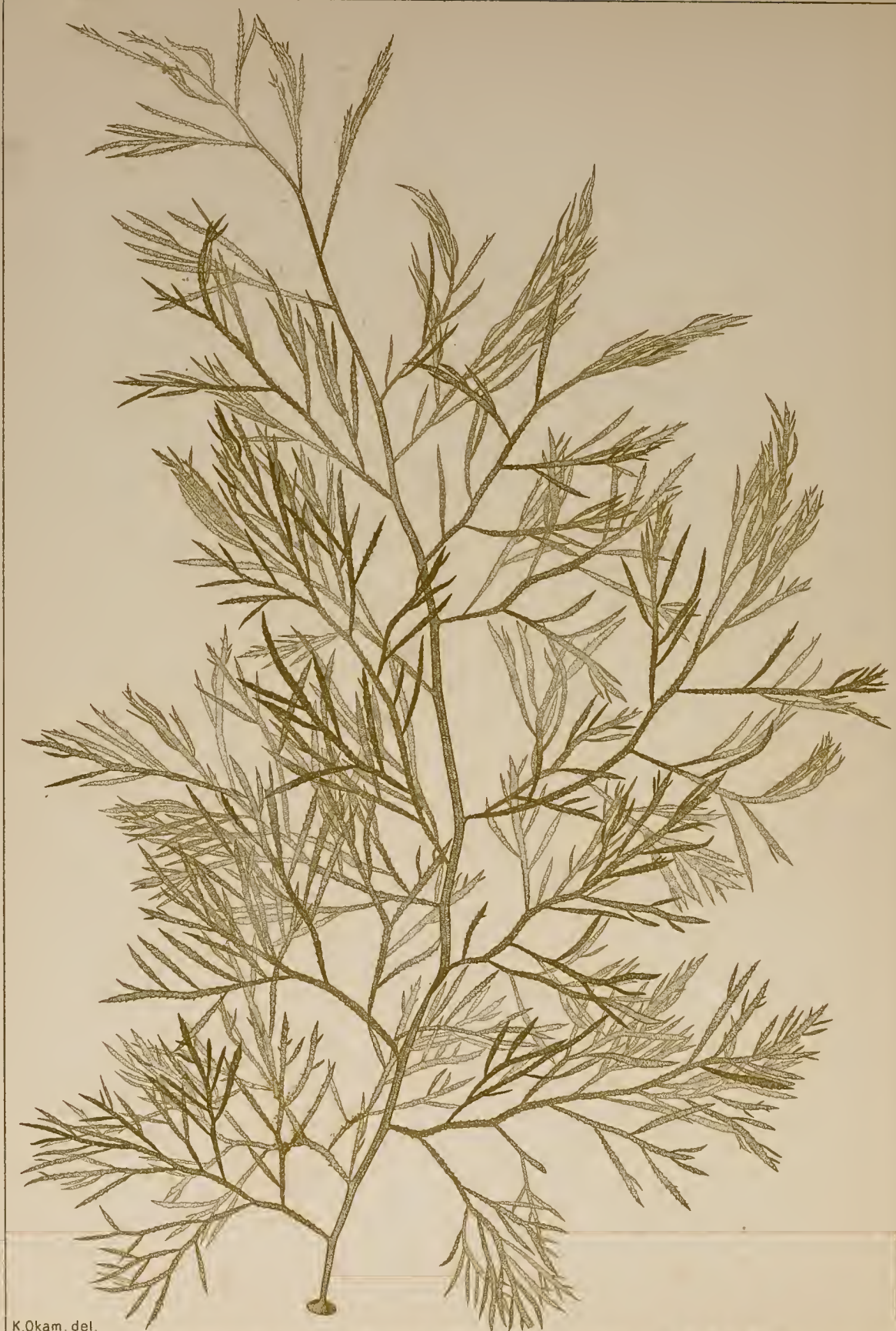
Desmarestia ligulata (Lightf.) Lamour. うるとぐさ





Desmarestia viridis (Muell.) Lamour. けうるしぐさ

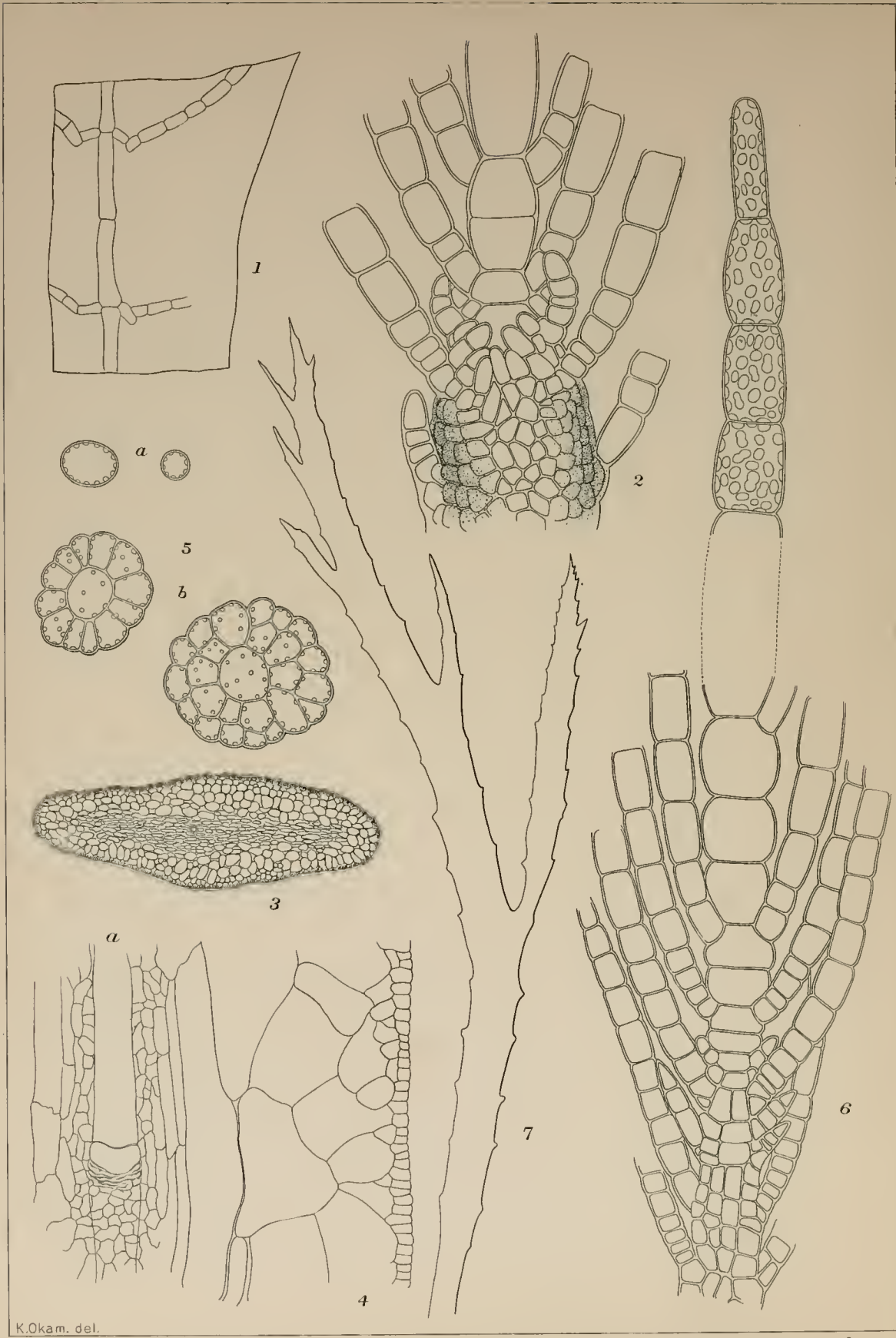




K.Okam. del.

Desmarestia latifrons (Rupr?) Kuetz. はうるしぐさ





Desmarestia ligulata (Lightf) Lamour. うるしぐさ Fig. 1-4.
 D. viridis (Muell) Lamour. けうるしぐさ Fig. 5-6. D. latifrons (Rupr.) Kuetz. はうるしぐさ Fig. 7.

PL. LXXV. Fig. 5-6. Fig. 5: *a*, cross-sections of terminal hairs; *b*, cross-sections of branches in different stages of growth; ³⁹⁰₁.—Fig. 6: growing apical portion of the frond; ten cells omitted in the terminal hair; the upper 4 cells showing chromatophores, ³⁹⁰₁.

Desmarestia viridis (Muell.) Lamour.

けうるしぐさ.

第 LXXIII 圖版; 第 LXXV 圖版, 5-6 圖.

體ハ下部圓柱狀ニシテ, 數回羽狀ニ對生シ, 漸次上部ニ至ルニ從テ極メテ細キ毛狀ヲナス; 各部ニ中軸ヲ存スルコトナシ. 枝ハ極メテ多ク且ツ密ニシテ 2-7 mm 程距リテ出デ, 各部同様ニ對生ス, 體ハ 60-90 cm ニ達シ, 下部ノ直徑ハ 3 mm ニ至リ, 上部ハ毛ノ如ク細シ. 枝ノ上部ハ始メ單列ノ細胞ヨリ成レル毛ヲ有シ, 毛ハ後脱落ス. 色ハ生時ノモノヲ知ラザレドモ概チ淡黃色ヲ呈ス.

產地: 天鹽カモイト, 根室, 函館; 陸前岩井岬, 氣仙沼; 磐城小名濱; 品川灣; 三河灣; 志摩; 伊豫新濱; 越後青海川, 鯨波.

分布: 太平洋北部, アラスカ; 太西洋ニテハ「カリフォルニア」, 「グリーンランド」, 「フエーレース」島, 「ノルウエー」ヨリ佛國ノ沿岸ニ南下ス; 南海ニテハ米國ノ沿岸, オークランド島及ケルグエレン.

色ノ變化並ニ滋味アルコトハ前種ノ備考中ニ記セリ. 本種ハ枝ノ各部ニ中軸ヲ存スレドモ, 表面ヨリ明ニ之ヲ認ムルコト能ハザルノ故ヲ以テ元ト別ニ *Dichloria* Grev. 屬トセラレタレドモ, 今日ニテハ當屬中ニ收メラレ, Section *Dichloria* ノ中ニ入レルアルコトナレリ.



第 LXXIII 圖版. 1: *Desmarestia viridis* (Muell.) Lamour., けうるしぐさ, ノ充分成長シタル體ノ一部, $\frac{1}{1}$.—2: 莖ノ横斷面, $\frac{54}{1}$.—3: 同上ノ一部, $\frac{175}{1}$.

第 LXXV 圖版, 5-6 圖. 5: *a*, 枝ノ幼部ノ縁邊ニ生ズル毛ノ横斷面; *b*, 種々ノ發達ノ程度ニアル枝ノ横斷面; $\frac{390}{1}$.—6: 體ノ成長端; 頂端ナル毛ハ中途十箇ノ細胞ヲ略シタリ, 而シテ上部ノ細胞ニハ色素體ヲ示ス, $\frac{390}{1}$.

Desmarestia latifrons (Rupr.?) Kuetz.

Nom. Jap.: *Ha-urushi-gusa*.

PL. LXXIV; PL. LXXV, Fig. 7.

Desmarestia latifrons (Rupr.?) Kuetz. Tab. Phyc. IX, p. 40, t. 95, f. I; De Toni Syll. Alg. III, p. 459; 岡村, 日本藻類名彙, p. 121.

Hab.: Only one specimen before us. A form of *Desmarestia aculeata* (L.) Lamour.? Urup Isl.

PL. LXXIV. Frond of *Desmarestia latifrons* (Rupr.?) Kuetz. drawn in dried state, $\frac{1}{1}$.

PL. LXXV, Fig. 7. Portion of the frond, slightly magd., $\frac{5}{1}$.

Desmarestia latifrons (Rupr.) Kuetz.

はうるしぐさ.

第 LXXIV 圖版; 第 LXXV 圖版, 7 圖.

唯一箇ノ標本予ノ許ニアルノミ. 體ハ扁平線狀ニシテ數回互生シ, 枝ハ稍幅濶クシテ葉狀ヲナシ, 基部何レモ細ク,

縁邊ハ少シク距リテ鋸齒ヲナス。 中軸ハ所々ニ微カニ中肋
ノ如クナリテ認ルヲ得ベシ。 色ハ乾燥セルモノニテハ黄褐
色ナリ。 體ノ高サ 27 cm アリ。

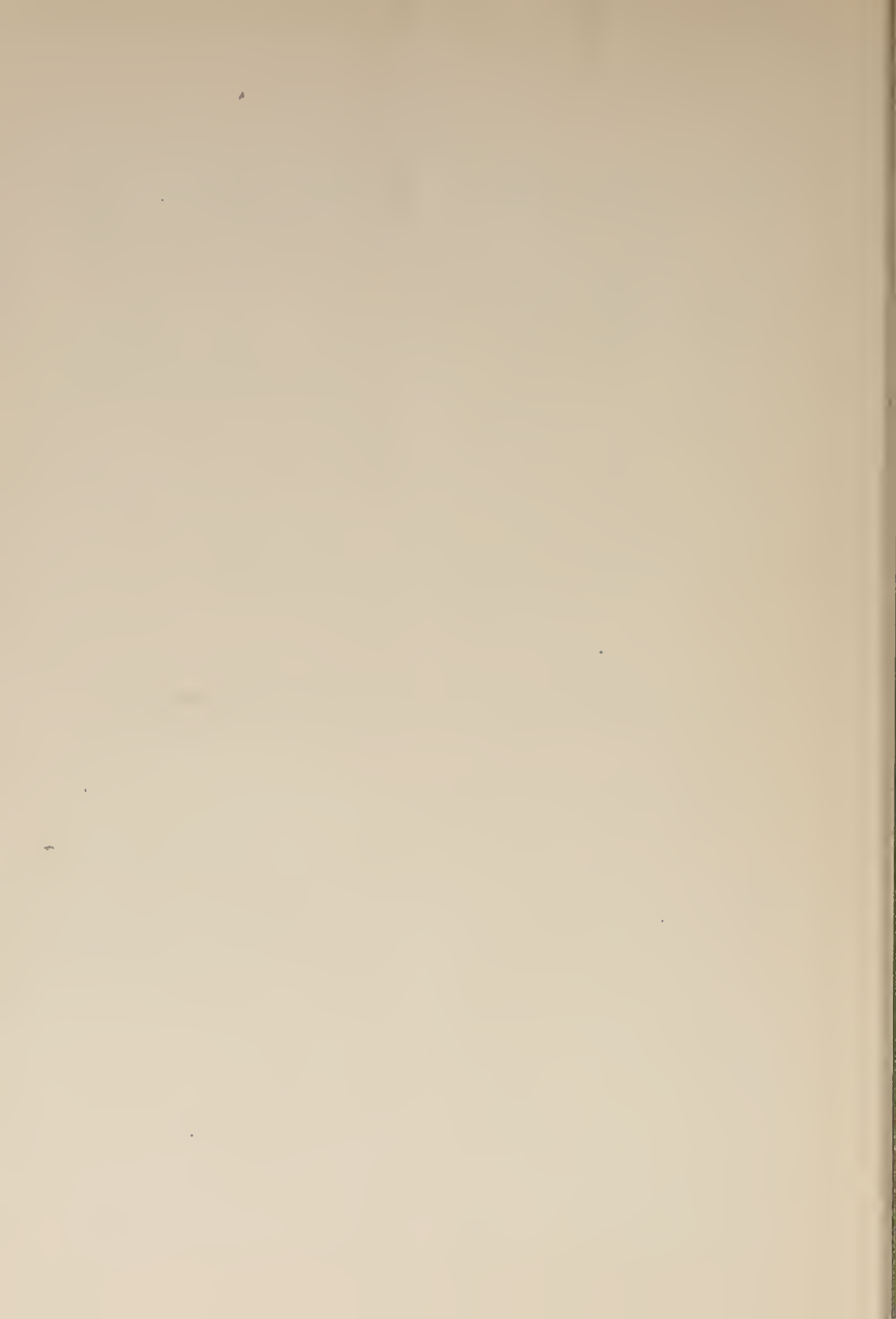
產地：得撫島小舟灣。

分布：北部太平洋。

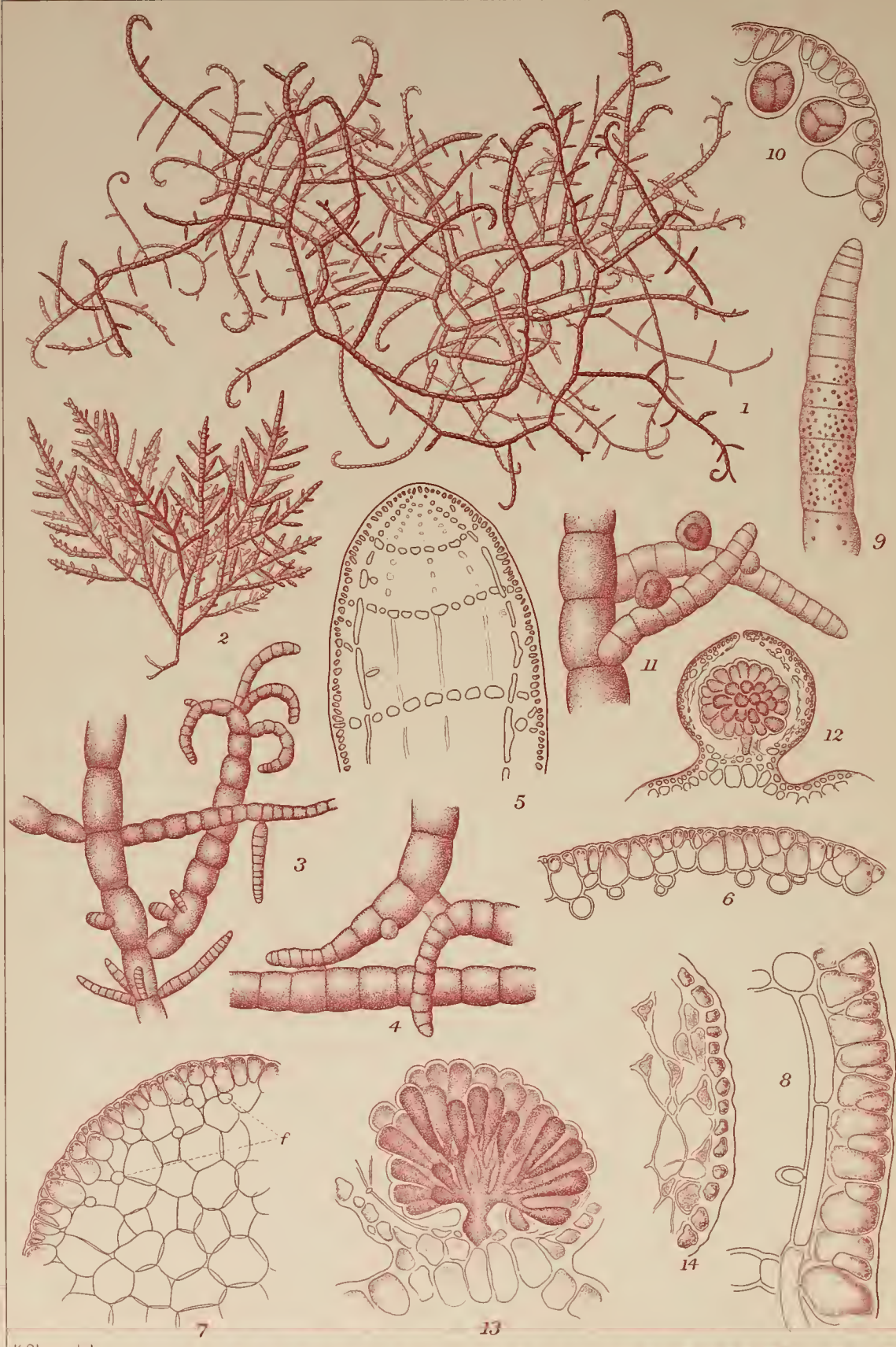
備考：唯一箇ノ標品アルノミユヘ種名稍不明ナリ；或ハ
Desmarestia aculeata (L.) Lamour. ノ一ノ形狀ナランカ。

第 LXXIV 圖版. *Desmarestia latifrons* (Rupr.?), Kuetz., はうるし
ぐさ, ノ乾燥セルモノ, $\frac{1}{1}$.

第 LXXV 圖版. 體ノ一部, $\frac{5}{1}$.







K. Okam. del.

7 2 3 4 13 5 11 14 6 1 10 8 12 9
Champia parvula (Ag.) J. Ag. Fig. 1-14. わつなきさう.

Champia parvula (Ag.) J. Ag.

Ncm. Jap.: *Wa-tsunagi-sō*.

PL. LXXVI.

Champia parvula (Ag.) J. Ag. Epicr. p. 303 ; B. M. Davis Devel. of Cystoc. in Ch. parv. (Bot. Gazette XXI) p. 109, t. VII-VIII ; Id. Devel. of the frond of Ch. parv. from the carpospore, (Ann. of Bot. VI, n. XXIV, 1892) p. 339, t. XXI ; De Toni Syll. Alg. IV, p. 558 ; 岡村, 日本藻類名彙, p. 44 ; Okam. Alg. Jap. Exsic. no. 16. — *Lomentaria parvula* Gaill. *Résum. p.* 19 ; Kuetz. Sp. Alg. p. 864 ; Id. Tab. Phyc. XV, t. 87, f. a-b ; J. Ag. Sp. Alg. II, p. 729. — *Chylocladia parvula* Hook. ; Harv. Phyc. Brit. tab. CCX ; Hauck Meeresalg. p. 157. — *Fucus kaliformis* r. *nanus* Turn. Hist. Fuc. p. 61. — *Lomentaria brevis* Kuetz. Phyc. gener. p. 441 ; Id. Sp. Alg. p. 864 ; Id. Tab. Phy. XVI, t. 88, f. d-e.

Hab. : On rocks between tide-marks, also often entangled on the branches of other larger algae. Provs. Tosa, Iyo, Suruga, Idzu ; Isl. Niijima and Oshima (Prov. Idzu) ; Provs. Sagami, Awa, Rikuzen, Idzumo, Wakasa, Noto and Sado. Very common along the both coasts of Japan. Fruits :—Spring to summer.

PL. LXXVI. Fig. 1: frond of *Champia parvula* (Ag.) J. Ag. entangled on branches of *Sargassum*, $\frac{1}{1}$.—Fig. 2: more regularly pinnated frond grown on rocks, $\frac{1}{1}$.—Fig. 3: portion of frond, $\frac{3}{1}$.—Fig. 4: portion of branches showing attachment of parts by root-like prominences, $\frac{8}{1}$.—Fig. 5: one-half of the longitudinal section of the apical portion of a branch, showing plane of the section and inner wall of the tube, $\frac{134}{1}$.—Fig. 6: portion of cross-section of frond, $\frac{134}{1}$.—Fig. 7: diaphragm viewed from above ; *f*, filaments longitudinally running

through the tube, $\frac{91}{1}$.—Fig. 8: portion of the wall of frond cut longitudinally, $\frac{220}{1}$.—Fig. 9: branch bearing tetrasporic sori, $\frac{12}{1}$.—Fig. 10: tetrasporangia, $\frac{134}{1}$.—Fig. 11: cystocarps, $\frac{8}{1}$.—Fig. 12: longitudinal section of a cystocarp, $\frac{54}{1}$.—Fig. 13: nucleus, $\frac{91}{1}$.—Fig. 14: portion of pericarp, $\frac{220}{1}$.

Champia parvula (Ag.) J. Ag.

わつなぎさう 岡村 稀

第 LXXVI 圖版.

(*Champia* 屬ノ性質ハ日本海藻圖說第一卷九十五頁ニアリ).

稀ニ單獨ニシテ岩上ニ直立シ羽狀ニ分岐スト雖モ、多クハ殆ド球狀ノ大ナル團塊ヲナシテほんだわら類ノ如キ大ナル海藻ノ枝ニ絡リ、枝ハ密ニ紛交シ、所々ニ根ノ如キ部分ヲ作リテ之ニ依テ相癒着スルヲ以テ、枝ヲ解クハ容易ナラズ。體ハ圓柱狀ニシテ 1-1.5 mm. 太ク、末端ノ方ニ近ヅクニ從テ稍細クナリ、殆ド複總狀ニ分岐ス。枝ハ各方面ニ互生シ、其處此處ニ對生シ、或ハ輪生狀ニ生ジ、廣開シ、或ハ殆ド水平ニ出デ、或ハ所々鈎狀ニ屈曲シ、基部概テ細ク、枝端鈍圓ナリ；而シテ各部、短距離ニ於テ關節狀ヲナシ、其部ニ横隔膜ヲ存ス。節間部ハ多少麥酒樽狀ニ膨レ、直徑ト同ジ程ニ長ク或ハ其一倍半程長ク（又多少直徑ヨリ短シ）、主枝ニテハ往々關節ノ膨レ方不明ニシテ殆ド圓柱狀ヲナスコトアリ。囊果ハ枝ノ上ニ散在シ卵形ナリ。四分孢子囊ハ最末位若クハ其前位ノ枝ノ中央部ニ散在ス。色ハ暗紅色ニシテ、往々黃色若クハ綠色ニ變ズ。質ハ膜質ニシテ軟カク、乾燥スルトキハ臺紙ニ附着スレドモ往々密着セザルコトアリ。

產地：潮線間ノ岩上ニ生ジ、又往々他ノ大ナル海藻ノ體上ニ卷絡ス。土佐、伊豫新濱、駿河、伊豆、新島及大島（豆州）、相模、安



K.Okam. del.

Constantinea rosa-marina Post. et Rupr. おきつばら.

房, 陸前, 出雲, 若狹, 能登, 佐渡. 太平洋並ニ日本海方面ノ溫暖部ニ普通ナリ. 果實:—春季—初夏.

分布: 太西洋 (英, 佛, 米), 地中海; アドリアチック海; オーストラリア.

第 LXXVII 圖版. 1: ほんだわらノ枝ニ纏絡セル *Champia parvula*, わつなぎさう, ノ體, $\frac{1}{1}$.—2: 岩石上ニ生ゼル稍正シク羽狀ヲナセルモノ, $\frac{1}{1}$.—3: 體ノ一部ニシテ枝ノ不規則ニ出ルヲ示ス, $\frac{2}{1}$.—4: 枝ノ互ニ癒着スル狀, $\frac{2}{1}$.—5: 枝ノ頂部ヲ縦ニ二ツニ切斷シタル斷面ト體壁ノ内面トヲ示シ, 且ツ成長點並ニ體ヲ構成スル方法ヲ示ス, $\frac{134}{1}$.—6: 體ノ横斷面ノ一部, $\frac{134}{1}$.—7: 體ノ横斷面ノ一部ニシテ横隔膜ノ表面ヲ示ス; *f*, 體ノ内部ヲ縦走スル絲狀細胞, $\frac{91}{1}$.—8: 體ノ縦斷面ノ一部, $\frac{220}{1}$.—9: 四分胞子群ヲ有スル枝ノ一部, $\frac{12}{1}$.—10: 四分胞子嚢, $\frac{134}{1}$.—11: 嚢果, $\frac{2}{1}$.—12: 嚢果ノ縦斷面, $\frac{54}{1}$.—13: 仁, $\frac{91}{1}$.—14: 果皮ノ一部, $\frac{220}{1}$.

Constantinea rosa-marina (Gmelin) Post. et Rupr.

Nom. Jap: *Okitsu-bara*.

PL. LXXVII; PL. LXXVIII, Fig. 8-13.

Constantinea rosa-marina (Gmel.) Post. et Rupr. *Illust. Alg.* p. 17, t. XXX; *J. Ag. Sp. Alg.* II, p. 295; *Id. Epicr.* p. 226; *De Toni Syll. Alg.* IV, p. 1637; *Setchell and Gardner Alg. of Northwest America* p. 355; 岡村, *日本藻類名彙*, p. 93.—*Fucus Rosa-marina* Gmel. *Hist. Fuci* p. 102, tab. V, f. 2.—*Neurocaulon Rosa-marina* Kuetz. *Sp. Alg.* p. 744; *Id. Tab. Phyc.* XVII, Tab. 83, f. d.

In the specimens before us the diameter of peltate lamina attains 6-7 cm, (some of the peltate leaves measure 5 cm in the radius) and some of laciniae more than 8 cm in length. Again, diameter of

stem measures 3-6 mm and the lengths of internodes, 1-1.5 cm, while the total length of plant, 20 cm.

Hab. : Cast up ashore. Isls. Shimushu and Paramushiro, Akkeshi (Prov. Kushiro), Uragawa (Prov. Hidaka).

PL. LXXVII. Fig. 1: sterile frond of *Constantinea rosa-marina* (Gmel.) P. et. R. from Gulf Musashi in Isl. Paramushiro, $\frac{1}{1}$.—Fig. 2: younger frond from Gulf Kataoka in Isl. Shimushu, in dry state, $\frac{1}{1}$.

PL. LXXVIII, Fig. 8-13. Fig. 8: longitudinal section of a younger proliferation, in nat. size.—Fig. 9: the same slightly magd., $\frac{3}{1}$.—Fig. 10: arrangement of cortical cells in the growing portion of a new lamina, $\frac{21}{1}$.—Fig. 11: cross-section of stem, $\frac{8}{1}$.—Fig. 12: cortical portion of the cross-section of stem, $\frac{21}{1}$.—Fig. 13: portion of longitudinal section of stem, $\frac{21}{1}$.

Constantinea Postels et Ruprecht 1840.

おきつばら屬.

DUMONTIACEAE. りうもんさう科.

體ハ分枝セル有花植物ノ如キ形狀ヲナシ、圓柱狀ノ莖ヲ存シ、圓キ鏢ノ如キ形セル葉ヲ有ス；葉ハ往々不規則ニ放射狀ニ裂ケ、後終ニ脱落ス。體ハ始メ蓮ノ葉ノ如ク、楕狀ヲナセル有柄、圓形ノ葉ヨリ成リ、葉ノ上面ノ中心ヨリ同様ノ形セル新規ノ部分ヲ發出シテ伸長シ、常ニ枝ノ頂端ニ在ル葉ノ中心ヨリ更ニ柄ヲ有スル葉ヲ發生シテ成長ス；斯クテ體ノ伸長法ハ聯基的ニシテ各部順次ニ相次ギ、後葉狀部ハ漸次其基部マデ裂ケテ墜落スルトキハ環狀ノ葉痕ヲ殘留ス。髓部ハ甚シク厚クシテ密ナル絲狀組織ヨリ成リ、長ク關節セル分岐シタル絲狀細胞ト極メテ多數ノ細キ根樣細胞トヨリ成リ、一部ハ稍太キ絲

狀細胞ヲ交ユ；皮層ハ甚ダ厚ク、内方ニハ稍大ナル細胞ニシテ緩ク、外方ニハ小ナル細胞ニシテ密ニ、體ノ表面ニ直角ニ列ス。——四分胞子囊ハ扁キ疣狀ノ「チマセシア」ヲナシテ存シ、横ニ分裂シ、「チマセシア」ハ葉面ニ散在ス。胎原列及助細胞列ハ實ヲ生ズベキ葉ノ部分ニ多數ニ生ジ、葉ノ上面ノ皮下層ノ組織ノ稍弛緩セル部分ニ存ス、而シテ甚多數ノ蠕蟲狀ニ屈曲セル中性絲狀細胞ト混在ス。囊果ハ實ヲ有スル葉ニ多數ニ存シ、葉ノ上面ノ縁邊ニ沿ヒテ廣キ帶ヲナシテ生ジ、其部ノ皮下層ノ甚シク弛緩シタル組織中ニ存シ、稍隆起セル皮部ニ小孔ヲ穿テテ開口ス；仁ハ桑ノ果實ノ如ク集リ、互ニ離散セル中性ナル絲アリテ其各部ヲ貫通ス；小仁ハ只初期ノミ離レテ存スレドモ後集合ス。

太平洋ノ北部ニ三種アリ。其一種 *Constantinea simplex* ハ California ニ産シ、二種ハ「カムサツカ」方面ニ在リ。本邦ニ産スルモノハ目下ノ處下ノ一種ノミナリト思ハル。

屬ノ名ハ羅馬帝王 Constantine 一世 (The Great) ニ捧ゲタルモノナリ。——和名ハ種ノ名 *Rosa-marina* (海ノ薔薇) ノ意義ニ採レリ。

Constantinea rosa-marina (Gmelin) Post. et Rupr.

おきつばら 岡村稱。

第 LXXVII 圖版；第 LXXVIII 圖版，8-13 圖。

根ハ圓盤狀。莖ハ 20 cm 程長クシテ岩石若クハ介殼上ニ附着シ、根際ヨリ分岐ス。枝ハ圓柱狀ニシテ互生シ又ハ所々輻狀ニ出デ、廣開シ、3-6 mm 太ク、多肉軟骨様ニシテ、乾燥スルトキハ堅シ；各部ノ枝ハ著シク太サヲ異ニセズト雖モ莖ノ如ク太カラズ、又上部ホド細シ。葉ハ圓形ニシテ鋸ノ如クナレドモ其全キコトハ稀ニシテ、概テ 3-6 個ノ裂片ニ裂ケテ輪生狀ヲナシ、裂片ノ長サハ約 4 cm アリ稀ニ 8 cm ニ及ブ；裂片ノ形狀ハ倒

卵形筵狀ナリ。其枝ノ頂端ニアリテ殊ニ幼キモノハ全キ圓形ニシテ直徑2-3 cmアリ,通常6-7 cmノ徑ヲ有ス(稀ニ半徑5 cmノモノアリ);而シテ裂片ハ概テ裏面ノ方ニ反卷ス。葉ノ落チタル痕ハ恰モ竹ノ節ノ如ク少シク隆起セル環狀痕ヲ存シ,此環ト環トノ距離ハ枝ノ直徑ノ2-3倍ニ達ス;節間ノ長サ1-1.5 cmアリ。——四分孢子及ビ囊果ハ今之ヲ詳ニセズ。色ハ濃キ紅色ナリ。葉ハ容易ニ裂ケ易キ革質ニシテ多肉ナレドモ,枝ハ多肉ニシテ乾燥スルトキハ堅硬ナリ。

體ノ構造ハ全部絲狀細胞ヨリ成リ,莖ハ縱走セル絲狀細胞ト放射狀ニ走ルモノトヨリ成ル而シテ皮層ハ表面ニ直角ニ列セル小細胞ヲ以テ成ル。新葉ノ成長點ハ長ク一列ニ列ナレル細胞列ヨリ成リ,其下部ノ組織ハ細胞稍緩ク結合スルコト第LXXVII圖版第10圖ニテ見ルヲ得ベシ。

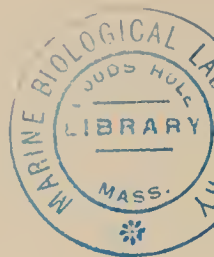
產地: 海濱ニ打揚ゲラル、モノ多シ(低潮線以下ニ産スルモノ、如シ)。占守島片岡灣,バラムシロ島武藏灣,厚岸,浦河。

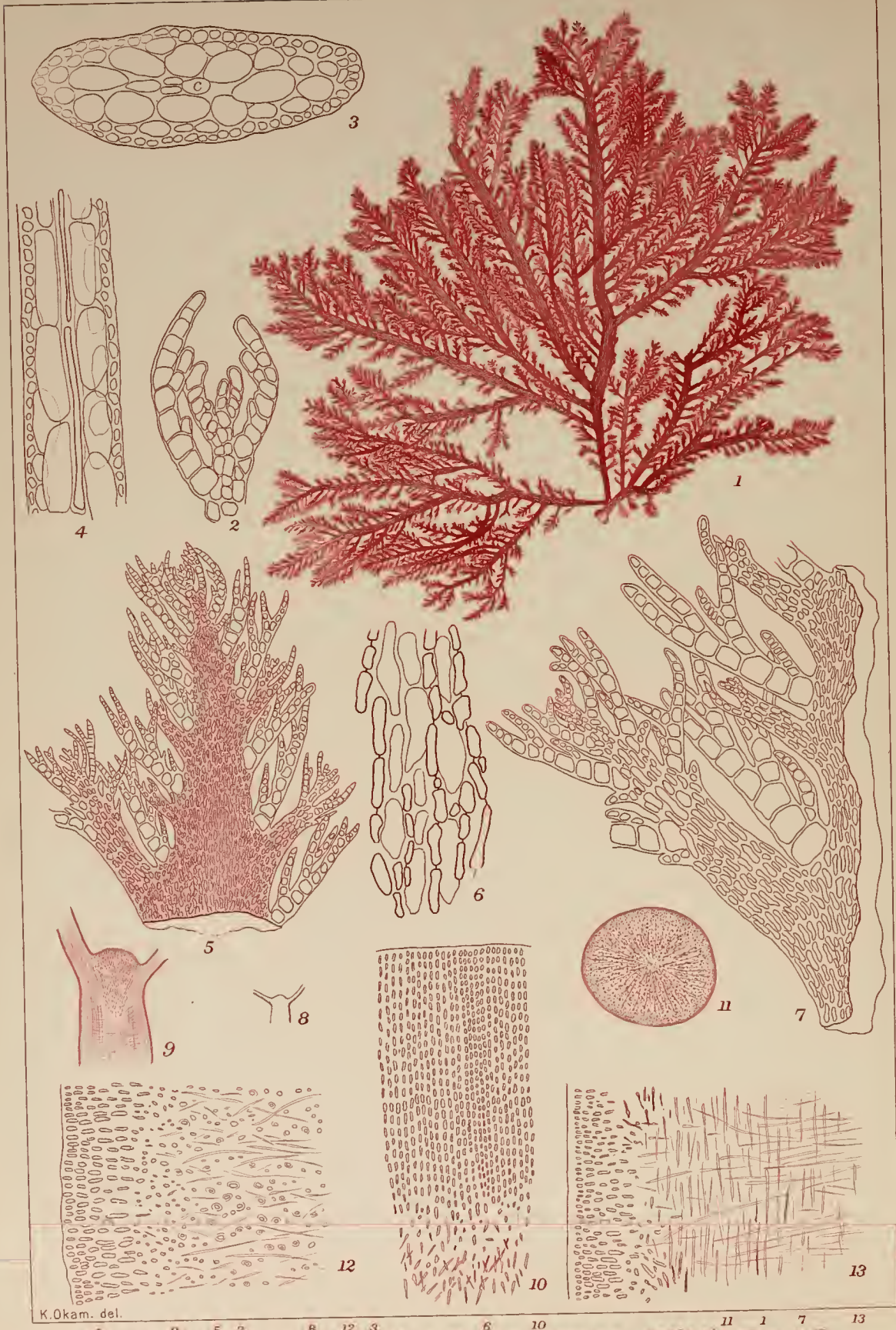
分布: カムサツカ諸島。

備考: 本種ニ類スルモノ尙ホ二種アリ; *C. sitchensis* and *C. simplex* 是ナリ。 *C. sitchensis* ハ體ノ成長點即チ新ニ葉片ノ伸ブベキ成長點ハ在來ノ葉ノ中央ニ細長ク伸ビ出デ,本種及ビ *C. simplex* ノモノハ小サキ釦ノ如キ隆起ヲナセルヲ以テ異ナリトス。而シテ本種ト *C. simplex* トノ區別ハ其單條若クハ一回叉狀ヲナセルノミナルト數回分岐スルトニ於テ存ス。本種ハ別ニ用途ナシ。

第LXXVII圖版. 1: *Constantinea rosa-marina* (Gmel.) P. et R., おきつばら,ノ實ナキ體, (武藏灣産), 1.—2: 同上ノ稍幼キモノ (乾燥標品,片岡灣), 1.

第LXXVIII圖版, 8-13圖. 8: 體ノ成長點ノ縱斷面,即チ新葉ノ副出スル部分ヲ縱斷シタルモノ, 1.—9: 同上ノモノヲ稍廓





K. Okam. del.

Dasyopsis plumosa (Baile et Harv.) Schmitz だちもどき Fig. 1-7.
Constantinea rosa-marina Post. et Rupr. おきつばら Fig. 8-13.

大シタルモノ, $\frac{3}{1}$ —10: 新葉ノ成長點ノ皮層細肥列, $\frac{21}{1}$ —11: 莖ノ横斷面, $\frac{3}{1}$ —12: 莖ノ横斷面ノ一部, $\frac{21}{1}$ —13: 莖ノ縦斷面ノ一部, $\frac{21}{1}$.

Dasyopsis plumosa (Bail. et Harv.) Schmitz.

Nom. Jap.: *Dasy-modoki*.

PL. LXXVIII, Fig. 1-7.

Dasyopsis plumosa (Bail. et Harv.) Schmitz Die Gattung Lophothalia, 1893, p. 231; Falkenb. Rhodomelaceen, 1901, p. 664; De Toni Syll. Alg. IV. p. 1180.—*Dasya plumosa* Bail. et Harv. in Harv. Ner. Bor. Amer. II, p. 66; J. Ag. Sp. Alg. II, p. 1238; Id. Till Alg. Syst. XI, p. 108.

Frond erect, compressed, ancipito-distichous, 2-3 times pinnate, 4-9 cm high in only two specimens now before us. Pinnae elongated, patent and closely furnished with shorter and alternate pinnulae which are equally patent. Pinnae and pinnulae are densely loaded with monosiphonous, distichous and alternate ramelli (i. e. "Kurztriebe") which are straight and branched in sub-secund manner that is some 2-4 or more laciniae issue from articulations along the upper side of the monosiphonous rachis and some of laciniae are often forked. In older frond pinnulae become mostly subulate after the decay of ramelli. Articulations of ramelli are subequal to or shorter than the diameter. Ramelli mostly alternate with pinnulae (that is "Langtriebe") on one and the same side of the branch bearing them and also alternate with those on the other side. Ramelli arise from infra-cortical rhizoidal cells and their bases are covered with cortical cells which appear as if reticulated in the upper portion of branch. Adventitious ramelli often here and there arise from axils of pinnae and pinnulae. *Colour* is vinoso-brown. *Substance* is soft and membranaceous, pretty firmly adhering to paper in drying.

Hab.: Kuchi-no-tsu in Prov. Hizen; Enoshima (Prov. Sagami).

Only two specimens now before us. The alternate arrangement of branches may be seen from the mode of ramification in the growing portion of frond. In making this identification neither specimen nor figures have been accessible to me to consult with, and I am in some doubts in referring the present plant to this species on account of alternate arrangement of ramelli and shortness of their articulations.

PL. LXXVIII, Fig. 1-7. Fig. 1: frond of *Dasyopsis plumosa* (Bail. et Harv.) Schmitz in nat. size.—Fig. 2: growing apical portion of frond, $\frac{390}{1}$.—Fig. 3: cross-section of branch; c , the central axis; $\frac{91}{1}$.—Fig. 4: longitudinal section of branch, $\frac{91}{1}$.—Fig. 5: surface view of terminal portion of branch, $\frac{91}{1}$.—Fig. 6: portion of cortical layer, $\frac{390}{1}$.—Fig. 7: portion of branch shown in Fig. 5 to show ramelli and ramuli, $\frac{175}{1}$.

Dasyopsis Zanardini 1843.

だじもどき屬.

DASYEAE, RHODOMELACEAE.

だじあ亞科ふちまつも科.

體ハ直立シ或ハ平臥シ、放射狀構造ヲ有シ、圓柱狀又ハ稜柱狀若クハ扁平ニシテ、絲狀細胞ト柔軟細胞トヨリ成リ、主軸ハ聯基的伸長ヲナシ、主軸ノ關節ヨリ螺旋狀($\frac{1}{2}$, $\frac{3}{8}$ 等)ニ側枝ヲ生ジテ分岐ス。側枝ハ無限若クハ有限成長ノ枝トナリ、多クハ毛狀枝トナル;毛狀枝ハ再三叉狀様ニ分岐シ、早晚脱落スルモノニシテ、唯其基部ノ方ノ多少長キ刺狀ヲナシテ永ク莖ニ存スル部分ノミ多管軸トナル。聯基的伸長ヲナセル軸ノ各關節ハ周心細胞ヲ形成スルコトナク根様細胞ヲ生ジ、之ニ依テ直接ニ被蔽セラル;根様細胞ハ其枝ヲ出シタル關節ノ直グ上ノ關節並ニ其枝ノ細胞ノ下端ヨリ發出セラル。此根様細胞ヨ

リ成レル皮部ノ外部ノ細胞ヨリ時トシテハ不定枝(即後生的枝)ヲ生ズルコトハ *Dasya* 屬ニ於ルト同ジ。——四分孢子托(ステイキジア)ハ毛狀枝ノ稍幼キ小枝ニ生ジ、短キ單管ノ柄若クハ根様細胞ヲ以テ蔽ハレタル小サキ柄ヲ有シ、孢子ヲ輪生ス；孢子ハ之ヲ熟スル部分ノ關節ニ5-7個形成セラレ、其外部ハ其之ヲ形成スル周心細胞ノ外部ヲ蔽ヘル皮層細胞三個ヲ以テ蔽ハレ、其三個ノ細胞ハ全ク分裂スルコトナキカ又ハ後生的ニ分裂スルモノニシテ孢子ノ半分ヲ蔽フノミ。胎原列ハ主枝ノ頂端ニ近ク無限若クハ有限ノ側枝ニ多數ニ形成セラレ、此等ノ側枝ノ聯基的伸長ノ軸ニ生ズ、而シテ其之ヲ生ズル部分ノ關節ハ此處ノミ特ニ四個ノ周心細胞ヲ有ス；又往々多數相並列シ、各四個ノ細胞ヨリ成リ、甚ダ小ナリ。囊果ハ卵形又ハ壺狀ヲナス。孢子ハ棍棒狀ニシテ、成胞絲ノ末端ニ生ズ。

約五種アリテ太西洋及太平洋ノ温暖部ニアリ。模範種ハ *Dasyopsis plana* (C. Ag.) Zanard. ナリ。——屬ノ名ハ *Dasya* (紅藻類ノ屬ノ名)ト *opsis* (類似)トヨリ成ル；和名亦之ニ因テ命ジタリ。

Dasyopsis plumosa (Bail. et Harv.) Schmitz.

だじもどき* 岡村稱。

第LXXVIII圖版, 1-7圖。

體ハ直立、扁壓ニシテ兩緣ニ薄ク、兩緣ヨリ2-3回羽狀ニ分歧シ、目下ノ二個ノ標品ニテハ4-9cm高シ。羽枝ハ長ク、廣開シ、短クシテ廣開セル小羽枝ヲ密ニ互生ス。羽枝及小羽枝ハ密ニ單列ノ細胞ヨリ成レル毛狀枝ヲ存ス；毛狀枝(即チ短條枝)ハ小羽枝ノ兩緣ヨリ互生シ、直出シ、稍偏生的ニ分歧ス、即チ單列ノ細胞ヨリ成レル軸ノ上側ニ沿ヒテ2-4乃至其以上ノ齒狀枝ヲ生ジ、其内或モノハ叉狀ヲナス。老成セル體ニアリテハ毛狀枝ノ墜落スル爲メ小羽枝ハ概テ錐ノ如ク尖銳トナル。毛

* 圖版ノだじもどきはだじもどきの誤。



狀枝ノ關節ハ其直徑ト同長若クハ稍短シ。毛狀枝ハ之ヲ生ズル枝ノ同一ノ側ニ於テ概テ小羽枝即チ長條ト交互シ、且其枝ノ反對ノ側ニ在ル毛狀枝ト互生ス、而シテ、皮層下ナル根様細胞ヨリ不定枝トシテ起リ、其基部ハ皮層細胞ヲ以テ蔽ハル。皮層細胞ハ枝ノ上端ニ近キ所ニテハ恰モ網狀ヲナス。毛狀枝ハ又往々羽枝及小羽枝ノ腋ヨリ後生的ニ發條ス。色ハ葡萄酒様ニシテ褐色ヲ帶ブ。質ハ柔軟膜質ニシテ密ニ紙ニ附着ス。

產地：海濱ニ打揚ラル；多分深所ニ在ルモノナラン。肥前口ノ津(山崎又雄氏)；相州七里ヶ濱(東氏)。

分布：Puget Sound (米國ワシントン洲)。

今唯二個ノ標品アルノミ。枝ノ互生スルコトハ成長點附近ニ於ケル分枝ノ上ニ見ルモ明ナリ。本植物ヲ當種トスルニ就テハ比較參照スベキ標品モナク又圖書モナキヲ以テ幾分懸念ナキ能ハズ；殊ニ毛狀枝ノ互生スルコト及ビ其關節ノ短キコトハ本種ノ記載ト一致セザル處ニシテ、本種ノ毛狀枝ハ往々對生シ、其關節ハ徑ノ三倍長シト記載セラレタレドモ、本植物ハ此點ニ於テ稍異ナル所アレバナリ。

第LXXVIII圖版, 1-7圖。1: だじもどき, *Dasyopsis plumosa* (B. et H.) Schmitzノ體, 自然大。—2: 成長點, $\frac{390}{1}$ 。—3: 枝ノ橫斷面; c , 中軸; $\frac{91}{1}$ 。—4: 枝ノ縱斷面, $\frac{91}{1}$ 。—5: 枝ノ上部ヲ表面ヨリ見タルモノ, $\frac{91}{1}$ 。—6: 皮層ノ一部, $\frac{390}{1}$ 。—7: 第五圖ニ示シタル枝ノ一部ヲ廓大シテ、小枝及毛狀枝ヲ示ス, $\frac{175}{1}$ 。



K.Okam. del.

Campylaephora Hypnaeoides J. Ag. 𦵑ぶのり Fig.1-13.

Campylaeophora Hypnaeoides J. Ag.

Nom. Jap.: *Yego-nori*.

PL. LXXIX, Fig. 1-13.

Campylaeophora hypnaeoides J. Ag. Sp. II, p. 150; Id. Epicr. p. 108; Suring. Alg. Jap. p. 28, t. XIV, f. 1-4; De Toni Phyc. Jap. Nov. p. 36; Id. Syll. Alg. IV, p. 1503; Okam. Alg. Jap. Exsic. No. 80; 岡村, 日本藻類名彙, p. 83.—*Ceramium rubrum* Harv. in Gray Pl. coll in Japan p. 332.

Plant at first erect and more regularly dichotomous, 10-20 cm high, afterward becoming entangled into a very large mass by twisting on the branches of *Sargassum* with thickened and crooked portions. Frond filiform, cylindrical, ca. 1 mm thick in older specimens, irregularly branched in dichotomous manner. Branches patent, more or less furnished with lateral, simple or mostly many-times forked branchlets which are often disposed in subsecund manner in younger fronds. Terminal portion of branches of every order more or less forcipated, especially so in younger fronds, but when the plant grows in age lesser branches fall off and the frond becomes naked. Also, terminal portion of main branches swells up beneath the apex in sickle-shape, after the manner of *Hypnea musciformis* and in younger fronds those swollen portions carry forked ramuli on the side and apex. By these crooked portions, the plant becomes entangled to each other and twisted on the branches of *Sargassum*.

Frond immersedly articulated and thickly corticated, the cortication becoming more and more thick in older portions. Length of articulations subaequal to or one and half times as long as broad. Cortical layer consisting of two layers; the inner, of more or less

elongated and somewhat loosely disposed cells from which larger roundish cells are branched off, and the latter by further divisions give rise to gradually smaller cortical cells. Epidermal cells of inner side of swollen sickle-shaped portion which has firmly twisted on the frond of other algae elongate like papillae, so as to make its holding fast. — *Cystocarps* unknown. *Tetrasporangia* indefinitely scattered among the cells of cortical layer of branch, even up to sickle-shaped portion, roundish and triangularly divided. *Colour* varying from deep red to yellowish. *Substance* soft-membranceous in younger frond and in those growing in calm places, but more cartilaginous in older ones and in those growing in rough sea.

Hab.: On the fronds of several species of *Sargassum* in 4 to 6 fathoms. Provs. Higo, Iki, Chikuzen, Mikawa, Bōshyu, Idzumo, Noto, Echigo and Sado; Enoshima (Prov. Sagami), Matsushima (Prov. Rikuzen), Shin-hama (Prov. Iyo); Hakodate, Akkeshi and Shana (Hokkaido). *Tetrasporangia*:—Summer.

The seaweed is largely employed as an ingredient in the manufacture of “Kanten” or seaweed jelly. This marketable seaweed is mainly gathered in the Hekura Islets where the best quality is produced.

PL. LXXIX. Fig. 1: portion of the young frond of *Campylaeophora Hypnaeoides* J. Ag. in nat. size.—Fig. 2: older portion of the same, in nat. size.—Fig. 3: sickle-shaped swollen portion bearing terminal and lateral ramuli, $\frac{1}{1}^0$.—Fig. 4: growing apex of a ramulus, $\frac{2}{1}^{20}$.—Fig. 5: papillae-form elongation of epidermal cells, $\frac{2}{1}^{20}$.—Fig. 6: portion of young branch showing length of articulations, $\frac{1}{1}^{12}$.—Fig. 7: longitudinal section of the same as Fig. 6, ca. $\frac{1}{1}^{16}$.—Fig. 8: portion of longitudinal section of a young branch, $\frac{2}{1}^{20}$.—Fig. 9: portion of cross-section of a young branch, $\frac{2}{1}^{20}$.—Fig. 10:

portion of cross-section of thicker branch, $\frac{220}{1}$.—Fig. 11: branch bearing tetrasporangia, ca. $\frac{5}{1}$.—Fig. 12: cross-section of frond bearing tetrasporangium, $\frac{220}{1}$.—Fig. 13: tetrasporangia, $\frac{175}{1}$.

Campylaeophora J. Agardh 1851.

ゑごのり屬.

CERAMIACEAE. いぎす科.

體ハ始メ直立シ、後他ノ海藻ニ卷絡シ、圓柱狀、絲狀ニシテ、密ニ叉狀ニ分岐シ、其處此處ニ鎌狀ニ屈曲シテ肥大セル枝ヲ有ス；枝ハ總テ頂端内方ニ卷曲ス。體ハ全部皮層細胞ヲ以テ蔽ハレ、關節ハ埋リテ存ス；皮層細胞ハ厚ク中軸細胞ノ周圍ヲ蔽ヒ、内部ノモノハ多少長クシテ絲狀ヲナシ、多少弛緩シ、外方ニ漸ク圓ク且ツ大トナリ、外部ニ進ムニ隨テ小サキ表皮細胞トナル。——四分孢子囊ハ枝ノ全部ニ散在シ、皮層中ニ埋リテ存シ、不規則ニ三角錐形ニ分裂ス。囊果ハ詳ナラズ。

此屬ハ一屬一種ニシテ本邦ニ産スルノミナリ。——屬ノ名ハ *Campylos* (屈曲) ト *phoreo* (所有ス) トヨリ成ル；即チ鉤狀ニ屈曲シタル枝アルニ因レリ。

Campylaeophora Hypnaeoides J. Ag.

ゑごのり.

第 LXXIX 圖版.

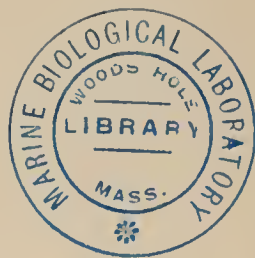
體ハ始メ直立シテ正シク叉狀ニ分岐シ、10-20 cm ノ長サヲ有スレドモ後漸ク不規則トナリ鉤狀ニ屈曲セル太キ部分ヲ以テほんだわら類ノ枝ニ卷絡シ紛亂錯綜シテ大ナル塊ヲナス。體ハ絲狀ニシテ圓柱狀、老成部ハ約 1mm 太ク、不規則ニ叉狀ニ分岐ス。枝ハ廣開シ、多少側枝ヲ存ス；側枝ハ單條又ハ概

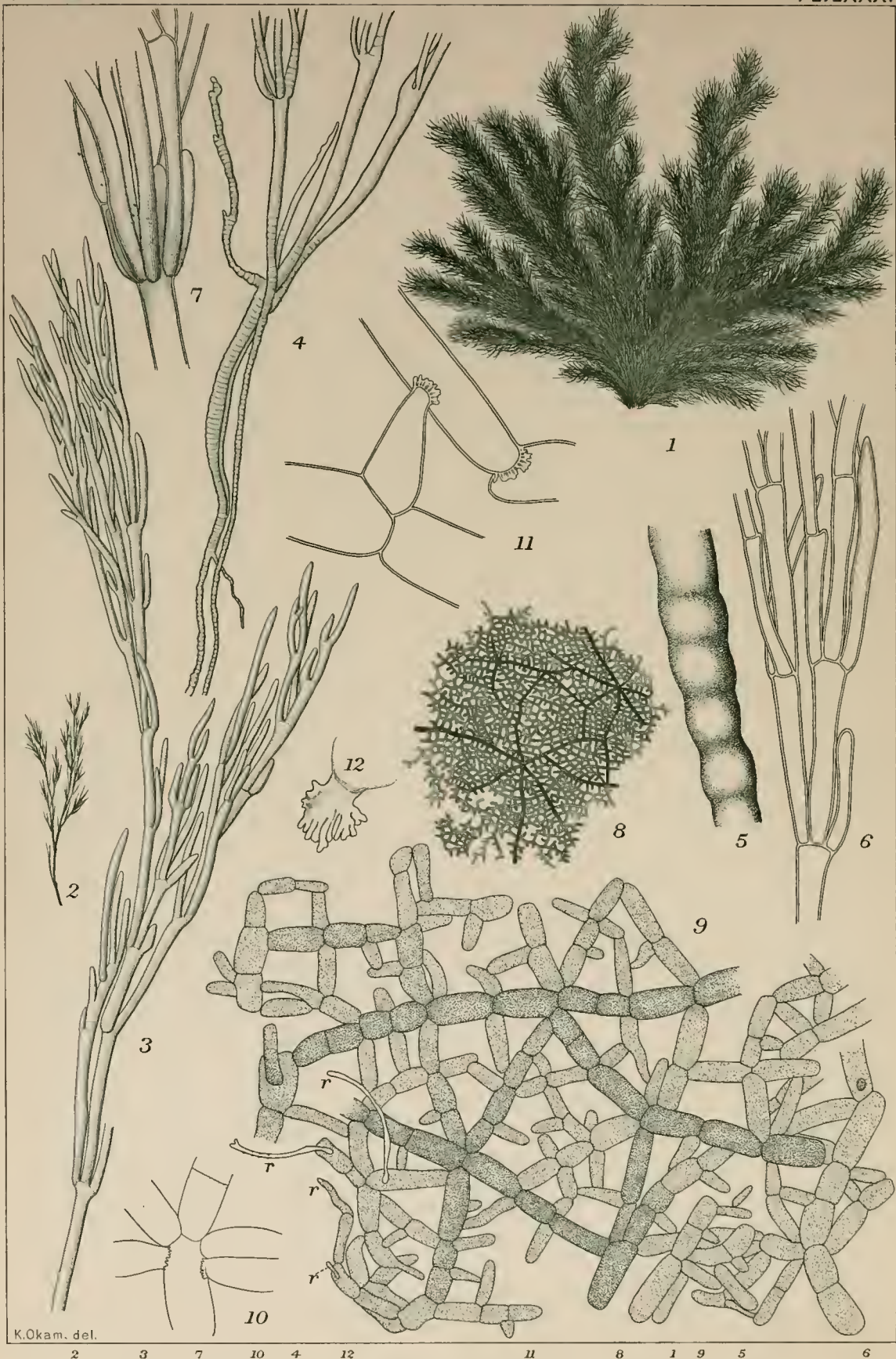
チ數回叉狀ヲナシ、若キ體ニテハ往々其處此處ニ偏在ス。各部ノ枝ノ頂端ハ多少鈎狀ニ屈曲ス、殊ニ幼者ニ於テ然リトス；然レドモ其老成スルニ至ルトキハ小枝ハ概テ脱落シ之ガ爲ニ體ハ裸出ス。又主枝ノ頂部ハ頂端下ニ膨大シテ鎌狀ニ屈曲スル狀恰モかぎいばらのり、*Hypnea musciformis*、ニ類ス、而シテ幼キ體ニテハ此等ノ膨レタル部分ノ頂端若クハ側面ヨリ叉狀ノ小枝ヲ存スルモノアリ。此鎌狀ヲナセル部分ヲ以テ此植物ハほんだらわ類ノ枝ニ卷絡シ又自身互ニ纏綿錯綜ス。

體ハ關節シ、厚ク皮層ヲ被ムル、皮層ハ老成部ホド厚シ。關節ノ長サハ其徑ト同長若クハ一倍半ホド長シ。皮層ハ二層ヨリ成ル；内層ハ多少長味アル且稍緩ク配列セル細胞ヨリ成リ、此等細胞ヨリ稍大ナル圓キ細胞ヲ分岐シ、此圓キ細胞ハ更ニ分岐シテ漸次ニ小形トナレル表皮細胞トナル。鎌狀ニ膨レタル部分ノ内側ノ表皮細胞ハ、其部ヲ以テ他ノ海藻ニ密ニ卷絡スル爲メ、恰モ乳頭狀ニ伸ビ以テ其部ノ卷絡ヲ安全ナラシム。——囊果ハ詳ナラズ。四分孢子囊ハ枝ノ皮層中ニ不規則ニ散在シ鎌狀ノ部分迄モ之ヲ存ス、而シテ球狀ニシテ三角錐形ニ分裂ス。色ハ濃キ紅色ヨリ黃色ニ變ズ。質ハ幼キ體ニテハ軟キ膜質ニシテ、其靜穩ナル場所ニ生ズルモノニ然リト雖モ、老成者及ビ波浪ノ荒キ所ニアルモノハ甚ダ硬クシテ軟骨質ナリ。

產地：4-6尋ノほんだらわ類ノ枝ニ卷絡ス。肥後、筑前、勝本(壹岐)、新濱村(伊豫)、三河、江ノ島(相模)、房州、松島(陸前)、函館、厚岸、沙那、出雲、能登、佐渡、越後

備考：此海藻ハ *Gelidium* (てんぐさ類) ト共ニ凍瓊脂製造ニ用ヰラル。商品トシテ輸出サル、主ナル產地ハ能登、艫倉島ニシテ、概シテ日本海沿岸ノモノハ質硬ク糊料多クシテ用フベク、太平洋側ノモノハ質柔軟ニシテ用ヰルニ足ラズ。九州ニ





Microdictyon pseudohapteron Gepp たのもぐさ Fig. 8-12.
Cladophora rugulosa Mart. クロシほぐさ Fig. 1-7.

ヲハうぎう、うきうと、うけうと、おきうど等ト稱シ夏季之ヲ煮テ溶解シタルモノヲ凝固セシメテゑごてん又ハゑごごんにやくト稱シ食用トス；福岡縣博多ニテ多ク之ヲ好ミ食ス。石川、新潟其他多ク之ヲ産スレドモ體ノ絲狀ニシテ切レ易キヨリ風波ノ爲メ往々流失スル恐アリ。夏季ヲ以テ此藻ノ採集期トス。此藻ハ他ノ藻ニ纏絡スルヲ以テ自然斷レテ増殖スルヲ得ベク、囊果ハ多分之ヲ存セズシテ蕃殖スルモノナルベシ。

第LXXIX圖版。1: ゑごのり, *Campylaeophora Hypnaeoides* J. Ag. ノ幼キ體ノ一部, $\frac{1}{1}$.—2: 其老成セルモノ, $\frac{2}{1}$.—3: 鎌狀ニ屈曲セル部分ノ頂端及ビ側部ニ小枝ヲ存スルモノ, $\frac{10}{1}$.—4: 小枝ノ成長點, $\frac{320}{1}$.—5: 乳頭狀ニ皮表細胞ノ突出シタルモノ, $\frac{220}{1}$.—6: 關節ノ長サヲ示セル幼キ枝ノ一部, $\frac{12}{1}$.—7: 第6圖ト同様ノモノ、縱斷面, 約 $\frac{16}{1}$.—8: 幼キ枝ノ縱斷面ノ一部, $\frac{220}{1}$.—9: 幼キ枝ノ橫斷面ノ一部, $\frac{220}{1}$.—10: 稍太キ枝ノ橫斷面ノ一部, $\frac{220}{1}$.—11: 四分胞子囊ヲ有スル枝, 約 $\frac{5}{1}$.—12: 四分胞子囊ヲ有スル枝ノ橫斷面ノ一部, $\frac{220}{1}$.—13: 四分胞子囊, $\frac{175}{1}$.

Cladophora rugulosa Martens.

Nom. Jap.: *Kuro-shiwo-gusa*.

PL. LXXX, Fig. 1-7.

Cladophora rugulosa Martens Preuss. Expedition p. 112, t. 2, f. 3; De Toni Syll. Alg. Vol. I, p. 306; 岡村, 日本藻類名彙, p. 176.

Fronds densely tufted, erect and filiform, 5-8 cm high, ca. 0.3-0.5 mm thick. The basal articulation is more or less elongated (a few mm long or more) which is annularly constricted at the base for a short distance. The annular constrictions run down to root-like con-

tinuation of the basal articulations. Branches are produced from nodes in an alternate (*not dichotomous* as described by Martens) manner and often 3-5 (sometimes 7-9 in lower portion, but mostly 2-3 upwards) arise from the same node. They are erecto-fastigate and terminate in blunt apices. Lengths of articulations are longer in lower branches and shorter in upper ramuli. They vary in length from five to eleven times as broad. *Substance* is somewhat rigid and the plant does not adhere to paper in drying. *Colour* blackish brown or greenish in drying.

Hab.: On rocks, stones, shells etc. near high tide. Sugashima (Prov. Shima), Prov. Totomi, Prov. Bōshyu; Yokohama (Martens).

PL. LXXX, Fig. 1-7. Fig. **1**: fronds of *Cladophora rugulosa* Martens in nat. size.—Fig. **2**: one of smaller fronds detached, $\frac{1}{4}$.—Fig. **3**: upper portion of branch, $\frac{8}{1}$.—Fig. **4**: basal portion of frond and root like continuation, $\frac{8}{1}$.—Fig. **5**: annular constrictions of the basal portion of frond, $\frac{9}{1}$.—Fig. **6**: portion of upper branch producing three branches from the same node, $\frac{22}{1}$.—Fig. **7**: portion of lower branch bearing nine branches at the same node, $\frac{22}{1}$; one of the branches is shown to have an intercalary septum.

Cladophora rugulosa Martens.

くろしほぐさ 岡村 稱

第LXXX圖版, 1-7圖.

(*Cladophora* 屬ノ性質ハ日本海藻圖說第一二一頁ニアリ.)

體ハ密ニ叢生シ、直立、絲狀、5-8 cm 高ク、約 0.3-0.5 mm 太シ。下部ノ關節ハ多少長ク(4-5 mm 若クハ稍長シ)、基部ノ少距離ノ間環狀ニクビレタリ。此環狀ノクビレハ體ノ下部ノ根ノ如ク下

降セル部分ニモ存ス。枝ハ互生ス (Martens 氏ハ叉狀ト記セドモ然ラズ) 而シテ往々 3-5 條 (時ニ體ノ下部ニテハ 7-9 條出ルコトアルモ, 多クハ上部ニテハ 2-3 條ナリ) 同一節ヨリ出ヅ。枝ハ直出シ鈍頭ヲ以テ終ル。關節ノ長サハ下部ノ枝ニテハ長ク, 上部ノモノニテハ短クシテ, 徑ノ 5 倍ヨリ 11 倍ニ達ス。或節間部ニハ介生的分裂ヲ見レドモ屢々ナラズ。質ハ硬クシテ體ハ乾燥スルトキハ紙ニ附着セズ。色ハ乾燥スルトキハ黒褐色又ハ稍綠色ヲ帶ブ。

產地: 高潮線附近ノ岩石, 介殼等ノ上ニ生ズ。志洲菅島, 遠江, 房洲; 横濱 (Martens)。

備考: 本種ハ體ノ下部ニ環狀ノクビレアルヲ以テ特徴トシ, 其性質ニ於テ *Cladophora Wrightiana* Harv., ちやしほぐさ (日本海藻圖說第 XXIX 圖版) ト酷似スレドモ, 體ノ小ナルト黑色ナルトニ依テ他ノ類似ノモノト區別スルコト容易ナリ。

第 LXXX 圖版, 1-7 圖。 1: くろしほぐさ, *Cladophora rugulosa* Martens, ノ體, $\frac{1}{1}$ 。—2: 小サキ體ノ一ヲ分離シタルモノ, $\frac{1}{1}$ 。—3: 枝ノ上部, $\frac{8}{1}$ 。—4: 體ノ下部並ニ根ノ如キ部分, $\frac{8}{1}$ 。—5: 體ノ下部ノ環狀ノクビレ, $\frac{9}{1}$ 。—6: 同一節ヨリ三條ノ枝ヲ生ズル上部ノ枝, $\frac{9}{1}$ 。—7: 同一節ヨリ九條ノ枝ヲ有スル下部ノ枝ノ一部, $\frac{9}{1}$ 。

Microdictyon pseudohapteron A. et E. S. Gepp.

Nom. Jap.: *Tanomo-gusa*.

PL. LXXX, Fig. 8-12.

Microdictyon pseudohapteron Gepp. Mar. Alg. and Mar. Phanerog. of the 'Sealark' Expedition, (Trans. Linn. Soc. Lond. Vol. XII, 1909) p. 375, pl. 47, figs. 1-4.—*M. umbilicatum* (non Zanand.) 岡村, 日本藻類名彙, p. 193.

Our plant so well agrees with the description given by the authors of this species that no further description will be needed. I have seen 4-6 branches arising from the same node in making stellate ramification; but, it is more usual to find the case as illustrated in PL. LXXX, fig. 10.

Hab.: On the fronds of various algae. Riukiu-Is.

PL. LXXX, Fig. 8-12. Fig. 8: frond of *Microdictyon pseudo-hapteron* A. and E. S. Gepp, somewhat torn, $\frac{1}{1}$.—Fig. 9: lower portion of the frond, with root-fibres, r ; (diameter of thicker cells measures 410μ), $\frac{10}{1}$.—Fig. 10: stellate node, showing 2-cells having tenaculoid attachments applied to the cell of the main filament, $\frac{22}{1}$.—Fig. 11: tenaculoid attachments which hold the reticulum together, $\frac{54}{1}$.—Fig. 12: tenaculoid attachment, $\frac{134}{1}$.

Microdictyon Decaisne 1839.

たのもぐさ屬.

CLADOPHORACEAE, SIPHONOCCLADIALES.

しほぐさ科, みどりげ族.

體ハ網狀ノ葉ニシテ莖ナク, 坐シ, 毛狀根ヲ以テ附着シ, 漏斗狀又ハ不規則ニ開張ス. 葉面ハ略ボ同一ノ形狀ヲナセル圓柱狀細胞ヲ以テ成リ, 或一點ヨリ同一ノ面ニ於テ各方面ニ放射狀ニ出デ, 各節ヨリ分枝シタル枝ハ其先端ヲ以テ他ノ細胞ニ附着シ, 斯クシテ多角形ナル網目ヲ形成ス; 其先端ヲ以テ附着スル部分ニハ細胞ノ頂端多少圓盤狀ニ開張シテ「テナキユラ」狀ヲナス. 體ノ成長ノ方法ハ頂端漸次伸長分枝シテ成ル. 游走子ハ總テノ細胞ニ生ズ.

約6種アリテ濠州, 布哇, 其他南洋諸島ニ産シ, 南亞弗加, 紅海, 太西洋熱帶部等ニ在リ; 一種, *M. umbilicatum* (Vellay) Zanard. ハ

アドリアチック海ニ産ス。——屬ノ名ハ⁶Micros (小ナル)ト dictyon (網)トヨリ成ル, 而シテ和名たのもぐさハ田ノ面草ノ意ナリ。

Microdictyon pseudohapteron A. et E. S. Gepp.

たのもぐさ 岡村 稱

第LXXX圖版, 8-12圖.

體ハ葉狀ニシテ下部ノ細胞ヨリ根ヲ出シテ他物ニ附着シ, 網狀ヲナセル圓柱狀細胞ヨリ成リ, 枝ハ始メ對生シ後星狀ニ出デ, 「テナキユラ」狀附着器ヲ以テ互ニ網狀ニ結合ス。

產地: 他ノ海藻ノ上ニ附着ス。琉球(黒岩)。

分布: Amirante 島, 20-44 尋及 30-100 尋, 並ニ Sayade Malha 礁, 25 及 26 尋(アフリカ); Cargados Carajos 瀬, 45 尋(印度洋)。

體ヲ組成セル圓柱狀細胞ハ各節ニ於テ直角ニ對生シ或ハ各側ニ二個ヅ、稍銳角ニ出デ, 枝ハ其先端ヲ以テ相隣接セル細胞ニ附着シ以テ四角若クハ多角形ノ網目ヲナシ, 主ナル數條ノ絲(關節セル細胞ヨリ成レルモノ)ハ恰モ主脉ノ如クナリテ此網狀ノ膜中ヲ貫通ス。細胞ノ先端相隣レル細胞ニ接スル所ニハ其頂端ノ膜圓盤狀ニ開展シ, 波狀ノ裂片ヲ有スル狀恰モ「テナキユラ」(一個ノ細胞ヨリ變成シタル圓盤狀附着器ニシテきつかうぐさ, あみハ等圖譜第四十圖ニ普通ノ構造ナリ)ニ似テ非ナル附着器ヲ以テス。此屬ノ他ノ種類ニモ多少此ニ類スル附着器アレドモ多クハ此レノ如ク波狀ノ裂片ヲ有セズシテ只圓盤狀ヲナセルノミナリ。

Gepp 氏ハ本種ノ特徴トシテ節部ニ星狀ノ分枝アルコトヲ以テシ, 其出來方ニ就テ下ノ如ク記ス:—“主脉ノ細胞ハ其節部ニ於テ先ヅ左右ニ直角ニ, 枝ナル細胞ヲ分裂シ, 後其下ナル腋ヨリ第二ノ細胞ヲ兩側ニ分裂スルヲ以テ, 初メ直角ニ出タル細胞ハ前方ニ押上ラレ, スクテ星狀ノ分枝ヲナスニ至ル, 此星

狀分枝ヲ此種ノ特徴トス”。予モ斯クノ如ク星狀ニ分岐セル節部ニ於テ四條乃至六條ノ枝ノ同一節ヨリ出ルヲ見タリ；然レドモ其星狀ノ如ク見ユルモノ、多數ハ第十圖ニ示ス如ク二個若クハ三個ノ細胞ノ先端ヲ以テ此部ニ附着シ依テ以テ星狀ヲ爲スモノナリ。

根ハ始原ノモノヲ見ル能ハザレドモ、體ノ下部ナル細胞ノ末端根ノ如ク伸ビ出ルモノト、又此等細胞ノ側面ヨリ出ルモノトニヨリテ他物ニ附着ス。

備考：Microdictyon 屬ノ植物ニハ從來「テナキユラ」狀附着器ノアルコトヲ知ラザリシガ、近ク之アルコトヲ知ルニ至リタレバ、此屬ト Rhipidiphyllon 屬(あみもよう屬、日本海藻圖說第一卷一二五頁)トノ區別益困難トナレリ。此二者ノ區別ハ既ニ予ノ上記圖說第一卷一二七頁ニ論ジタル如ク、あみもよう屬ニハ二種ノ細胞即チ主脈ヲナスモノト小脈ヲナスモノトアルコト並ニ體ノ下部ノ細胞相集リテ莖狀ヲナシ、直立スルト云フニ存スルモノ、如シ。

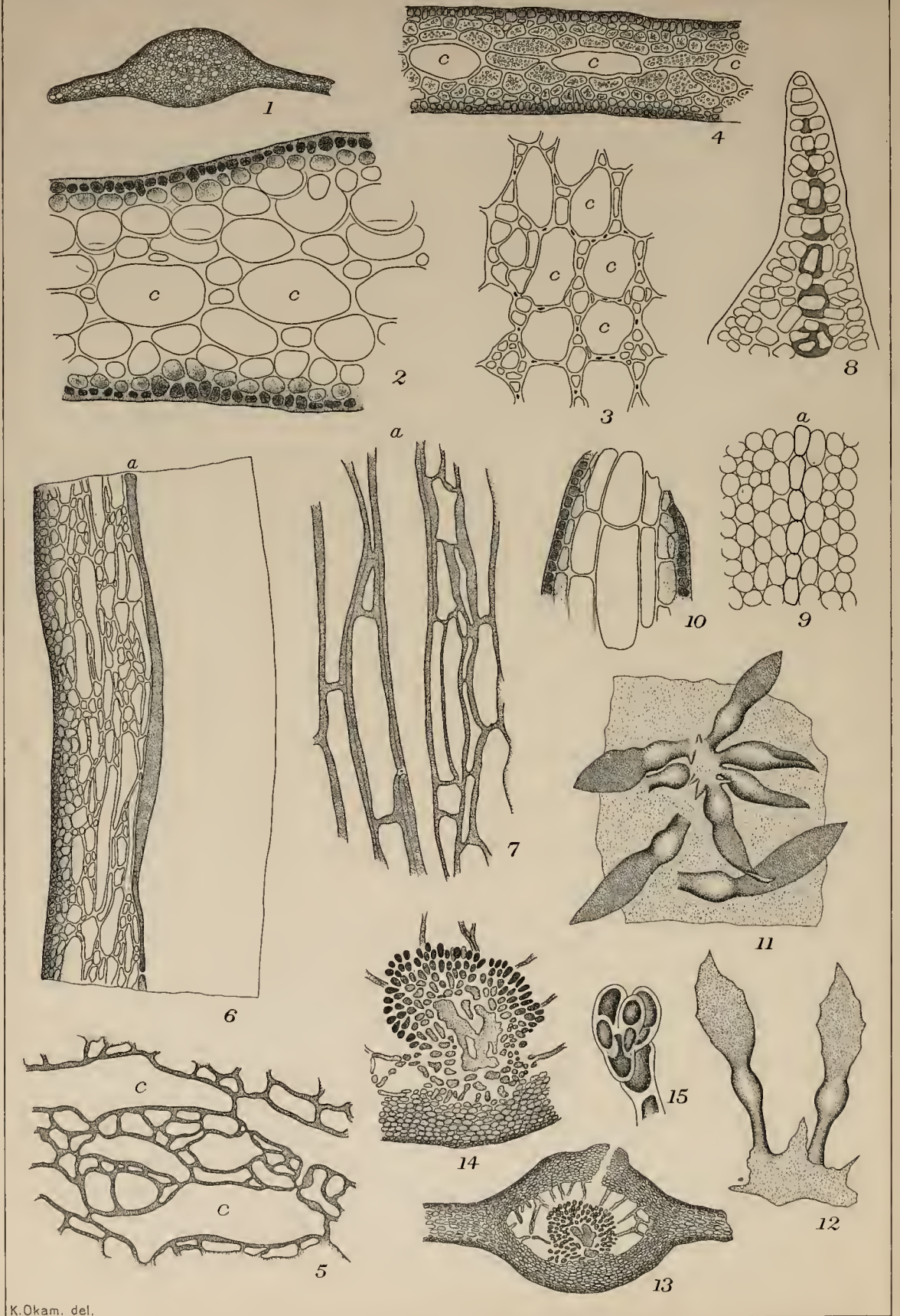
第LXXX圖版 8-12 圖. 8: たのもぐさ, *Microdictyon pseudohapteron* A. et E. S. Geppノ稍破レタル體, $\frac{1}{1}$.—9: 體ノ下部ノ一部; r, r , 根;(稍太キ細胞ノ直徑ハ 410μ ヲ算ス即チ約 0.5 mm. ナリ), $\frac{10}{1}$.—10: 星狀ノ節部ニ於テ二個ノ細胞ハ普通ノ分裂ヨリ成リ他ノ二個細胞ハ附着器ヲ以テ附着スルコトヲ示ス, $\frac{20}{1}$.—11: テナキユラ狀附着器ヲ以テ互ニ窓着シ以テ網目ヲナス狀, $\frac{54}{1}$.—12: テナキユラ狀附着器, $\frac{134}{1}$.





K.Okam. del.

Botryocarpa japonica Okam. nov. sp. まぶしろのり.



K. Okam. del.

6 1 5 2 14 7 3 13 15 10 4 11 9 12 8
Botryocarpa japonica Okam. nov. sp. 毛じろのり.

Botryocarpa japonica Okam. n. sp.

Nom. Jap.: *Suzushiro-nori*.

PL. LXXXI—LXXXII.

Diagn.: Frond stipitate, broadly lanceolate, spatulate or obovate, variously torn obliquely or irregularly lobed, rigid and curled, evanescently midribbed, veinless but with more or less obliquely paralleled vein-like striae in older fronds, with irregularly toothed margins; cystocarps shortly stipitate, swollen up near the base of simple or resulcated lanceolate sporophylls produced on both surfaces of frond.

Hab.: Cast up ashore. Cape Iwaizaki (Prov. Rikuzen).
Cystocarps :—summer.

Root a broad disc. Plant furnished with a short cylindrical stem which is more or less branched, and the branches expand into lanceolate, obovate or spatulate leaves. Leaves are rarely simple, usually torn up obliquely into irregular lobes and mostly curled. They are provided with the thick and prominent midrib which is evanescent towards the middle portion, and are veinless; but in older leaves more or less obliquely parallel striae or marks take the appearance like veins. Margins are mostly coarsely dentate or in some teeth are much elongated. Leaves attain the length of 10-15 cm and the breadth of 6-7 cm, and the height of the plant measures 17-20 cm or more in fully grown ones.

In the median longitudinal section of a leaf we find the slender central axis consisting of elongated cells which are thickly surrounded by elongated filamentous cells and smaller ones. In corss-section

of a leaf there is found in the middle layer a single discontinued row of larger cells, each separated from one another by smaller cells intercepted between. They are seen to be arranged in more or less parallel rows obliquely running from the axis towards the margins, as it is represented in fig. 3 which shows the section cut tangentially near the midrib portion. Some of these cells elongate and take more or less irregular disposition. They become afterward filled with brownish contents and those brown cells make the appearance like veins in surface view of older fronds. The growing apex of frond is invisible in a fully grown frond as the terminal portion is mostly wasted off, but in a very young sporophyll we may clearly see it with the apical cell horizontally articulated as it is shown in fig. 8.

Tetrasporangia unknown. *Cystocarps* ovoid or ellipsoid, produced in the lower portion of single or rosulately arising sporophylls and are shortly pedicelled having the structure exactly that of the genus. Sporophylls are lanceolate with entire or toothed margins, measuring 8 by 2 mm in larger ones and arise on both surfaces of the frond. *Colour* beautiful red when recent, becoming darker in drying. *Substance* thickish, rigid and curled when fresh, and the plant imperfectly adheres to paper in drying.

A distinct species related to *Botryocarpa prolifera* Grev., only one species of the genus hitherto-known from the Cape of Good Hope.

PL. LXXXI. Frond of *Botryocarpa japonica* Okam. n. sp. in nat. size.

PL. LXXXII. Fig. 1: cross-section of the basal portion of a leaf, $\frac{12}{1}$.—Fig. 2: portion near the central axis in the section shown in fig. 1; c, c, larger cells of the middle layer; $\frac{17.5}{1}$.—Fig. 3: tangential section of an older leaf showing the arrangement of the larger

cells of the the middle layer, c, c ; $\frac{21}{1}$.—Fig. 4: section of an upper leaf cut perpendicular to the vein like striae; c, c , empty larger cells of the middle layer which are surrounded by smaller cells filled with starch granules; $\frac{140}{1}$.—Fig. 5: portion of a tangential section of a leaf showing the elongated larger cells of the middle layer full of brownish contents, $\frac{80}{1}$.—Fig. 6: half of the longitudinal section of an upper leaf with the axis, a , $\frac{80}{1}$.—Fig. 7: portion of the same (fig. 6); a , the axis; $\frac{220}{1}$.—Fig. 8. surface view of a very young leaf showing the apical cell and the central axis, $\frac{390}{1}$.—Fig. 9: tangential section of a little lower portion of the sporophyll shown in fig. 8; a , axis; $\frac{220}{1}$.—Fig. 10: vertical longitudinal section of an older leaf to show the wasting of the apical margin, $\frac{220}{1}$.—Fig. 11: sporophylls bearing cystocarps, $\frac{5}{1}$.—Fig. 12: two sporophylls (8 by 2 mm), $\frac{5}{1}$.—Fig. 13: vertical section of a cystocarp, $\frac{42}{1}$.—Fig. 14: nucleus and the placental cell, $\frac{21}{1}$.—Fig. 15: spore-filament, $\frac{220}{1}$.

Botryocarpa Greville 1830.

すいしろのり屬.

DELESSERIEAE, DELESSERIACEAE.

このはのり科, このはのり亞科.

體ハ下部莖狀ヲナシ, 上部ハ葉狀, 扁平ニシテ, 種々ニ分レ, 往々副出シテ分枝ス; 體ハ稍厚ク, 細キ中肋(中軸)ヲ存シ, 側脈ナシ; 中軸ハ細キ根様細胞ヲ以テ圍繞セラレ, 中層ニ大ナル細胞アリテ此細胞ハ可ナリ多數ナル小サキ細胞ヲ以テ互ニ隔離セラル; 皮層ハ小サキ細胞ヨリ成リ, 其最外層ノ小細胞層ハ僅ニ區別セラルベキ上皮ヲ形成ス. 成長點ハ横ニ關節セル頂細胞ヲ有ス.—四分孢子囊及囊果ハ特別ナル成實葉ニ限ラレテ生ジ, 成實葉ハ相集リテ體ニ表面ニ散在ス. 四分孢子群ハ中肋ノ兩側ニ形成セラレ成實葉ノ全面ヲ蔽フ. 囊果ハ一

個ノ成實葉ニ一個ヲ生ジ、廣キ基部ヲ以テ其中央ニ座シ、胎座ハ可ナリ能ク形成セラレ、仁ノ周圍ニ在ル絲ヲ以テ胎座ト上部ノ果皮トヲ連結ス；胞子ヲ形成スル絲ハ略ボ同時ニ形成セラレ、澤山ニ分枝ス；胞子ハ(打見タル所ニテハ常ニ)胞子絲ノ末端ヨリ生ズ。

從來一屬一種トシテ知ラレタルモノニシテ、*Botryocarpa prolifer* Grev. ノ喜望峰ニアルヲ知レルノミ。——屬ノ名ハ *Botrys* (葡萄ナドノ總)ト *Carpos* (果實)トヨリ成ル即チ囊果ノ成實葉ノ集ルニ因レリ。和名ハだいこんノ葉ニ似タルヨリ命ジタリ。

Botryocarpa japonica Okam. 新種.

すいすろのり 岡村稱.

第LXXXI—LXXXII圖版.

性質：體ハ莖ヲ存シ、幅濶キ披針狀、筵狀又ハ倒卵形ニシテ、種々ニ斜ニ裂ケ或ハ不規則ニ分裂シ、質硬クシテ捻レ、體ノ上部ニテ消滅セル中肋ヲ存シ、側脈ナシ、然レドモ稍老成セル體ニテハ多少斜ニ並行セル側脈ノ如ク見ユル線條ヲ呈シ、不規則ニ齒狀若クハ稍長キ齒狀ノ緣邊ヲ有ス；囊果ハ短柄ヲ有シ、成實葉ノ下部ニ近ク膨大ス；成實葉ハ單條又ハ叢狀ニ出デ披針狀ニシテ體ノ兩面ニ生ズ。

產地：海濱ニ打揚ラレタリ。 陸前岩井岬。 囊果：一七月。

根ハ濶キ圓盤狀ナリ。體ハ短キ圓柱狀ノ莖ヲ有シ、莖ハ多少枝ヲ分チ、枝ハ披針狀、倒卵形又ハ筵狀ノ葉ニ開張ス。葉ハ罕ニ分裂セザレドモ、通常斜ニ又ハ不規則ナル裂片ニ裂ケ、多クハ捻レタリ。葉ハ太クシテ隆起セル中肋ヲ存シ、中肋ハ葉ノ中央部若クハ上部ニ至ラザル前ニ不明トナリ、側脈ナシ；然レドモ、稍老成セル葉ニ於テハ多少斜ニ並行セル線條若クハ班紋ノ如キモノアリテ側脈ノ如キ觀ヲ呈ス。緣邊ハ概テ粗

キ齒狀ヲナシ或モノニテハ齒ハ稍長シトス。葉ノ長サハ 10
15 cm ニ達シ 6-7 cm ノ幅アリ、而シテ體ノ高サハ充分成長シタ
ルモノニ於テ 17-20 cm 若クハ以上アリ。

葉ノ中肋ヲ通シタル縦断面ノ中央ニ一條ノ中軸アリテ長
キ細胞ヨリ成ルヲ見ル、而シテ中軸ハ長キ絲狀ノ細胞ト稍小
ナル細胞トヲ以テ厚ク圍繞セラル。次ニ葉ノ横断面ニ於テ
ハ中層ニ横ニ一列ニ並ベル稍大ナル細胞アリテ互ニ小サキ
數個ノ細胞ヲ以テ相隔テラル、ヲ見ル。此等ノ細胞ハ中軸ヨ
リ縁邊ノ方ニ斜ニ出デ多少並行ニ列スル狀第 3 圖ヲ以テ知ル
ベシ(此圖ハ中肋ニ近キ部分ヲ表面ニ並行シテ斷リタルモノ
ナリ)。此等細胞中或モノハ長クナリテ多少不規則トナリ、褐
色ノ内容物ヲ以テ充タサ、ルニ至ル; 之ヲ表面ヨリ見ルニ當
テ、恰モ側脈ノ如キ觀ヲ呈スルナリ。成長點ハ充分ニ成長シタ
ル部分ニテハ明ニ見ルベカラザルモ、極メテ幼キ成實葉ニテ
ハ第 8 圖ニ示ス如ク成長點細胞ハ横ニ關節スルヲ見ルベシ。

四分胞子囊ハ詳ナラズ。囊果ハ卵圓體又ハ橢圓體ニシテ
短キ柄ヲ有シ、單條又ハ花叢狀ニ出ル成實葉ノ下部ニ形成セ
ラル。囊果ノ構造ハ屬ノ性質ト異ナルコトナシ。成實葉
ハ披針狀ニシテ縁邊ハ全縁若クハ鋸齒ヲ存シ稍大ナルモノ
ニテ 8 mm 長ク 2 mm ノ幅アリ、而シテ體ノ兩面ニ生ズ。色ハ鮮
紅色ナレドモ乾燥スルトキハ稍黒味ヲ帶ブ。質ハ新鮮ノモ
ノハ稍厚ク、硬クシテ捻レ、乾燥スルトキハ紙ニ附着スルコト
充分ナラズ。

第 LXXXI 圖版。すいしろのり, *Botryocarpa japonica* Okam. 新
種, ノ體, 1.

第 LXXXII 圖版。1: 葉ノ下部ノ横断面, $\frac{12}{1}$.—2: 1 圖ニ示シタ
ル断面ノ中軸ニ接シタル部分; c, c, 中層ノ稍大ナル細胞, $\frac{17.5}{1}$.—
3: 稍老成セル葉ヲ表面ニ並行シテ斷リタルモノニシテ、中層

ノ稍大ナル細胞, c, c , ノ配列ノ狀ヲ示ス, $\frac{91}{1}$ —4: 上部ノ葉ノ側脈ノ如キモノニ直角ニ斷リタル斷面; c, c , 中層ノ稍大ナル空虛ノ細胞ニシテ其周圍ニアル小細胞ハ澱粉粒ヲ以テ充ルヲ示ス, $\frac{140}{1}$.—5: 葉ノ表面ニ並行ニ斷リタル斷面ニシテ中層ノ稍大ナル細胞ノ長ク伸ビタルモノニ褐色ノ内容物ヲ以テ充テルモノ, $\frac{80}{1}$.—6: 上部ノ葉ノ縱斷面ノ半分; a , 中軸, $\frac{80}{1}$.—7: 6圖ノ一部; a 中軸; $\frac{220}{1}$.—8: 極メテ幼キ成實葉ノ表面ニシテ成長點細胞ト中軸トヲ示ス, $\frac{390}{1}$.—9: 8圖ニ示シタル成實葉ノ少シク下部ヲ表面ニ並行ニ斷リタル面; a , 中軸, $\frac{220}{1}$.—10: 稍老成セル葉ノ縱斷面ニシテ, 頂部ヲナセル縁邊ノ破損セル狀ヲ示ス, $\frac{320}{1}$.—11: 嚢果ヲ有スル成實葉, $\frac{5}{1}$.—12: 成實葉 (8 mm 長ク 2 mm 濶シ), $\frac{5}{1}$.—13: 嚢果ノ縱斷, $\frac{42}{1}$.—14: 仁及胎座細胞, $\frac{91}{1}$.—15: 成胞絲, $\frac{220}{1}$.

Delesseria fimbriata De la Pylaie.

Nom. Jap.: *Kashiwaba-konoha-nori*.

PL. LXXXIII.

Delesseria fimbriata Delapyl. in J. Ag. Sp. II, p. 690; Id. Epicr. p. 486; De Toni Syll. Alg. IV, p. 704.—*Delesseria sinuosa* (not. Lamour.) 岡村, 日本藻類名彙 p. 50.

Hab.: On the frond of *Ptilota pectinata*. Kabafuto (Saghalin); Akkeshi and Hamanaka (Prov. Kushiro). Tetrasporangia:—August (Kabafuto).

PL. LXXXIII. Fig. 1: sterile frond of *Delesseria fimbriata* Delapyl. from eastern coast of Kabafuto (Saghalin), $\frac{1}{1}$.—Fig. 2: sterile frond from Kiritap in Prov. Kushiro, $\frac{1}{1}$.—Fig. 3: two young fronds, $\frac{1}{1}$.—Fig. 4: longitudinal section of frond through the central axis, $\frac{220}{1}$.—Fig. 5: surface-view of the apical portion of a young



Delesseria fimbriata Delapyl. かしわばまのはのり.





K. Okam. del.

Delesseria Middendorffii Rupr. なかこのはのり.

frond (the axis is indistinct in surface view), $\frac{340}{1}$.—Fig. 6: frond bearing tetrasporic sori, from Povorochini (Russian coast? 31, Aug.), $\frac{1}{1}$.—Fig. 7-8: portion of the same, ca. $\frac{5}{1}$.—Fig. 9: cross-section of a tetrasporic sorus, $\frac{91}{1}$.—Fig. 10: portion of the same, $\frac{175}{1}$.

Delesseria Lamouroux, 1813.

このはのり屬.

DELESSERIAE, DELESSERIACEAE.

このはのり科, このはのり亞科.

體ハ扁壓, 線狀ニシテ兩緣ニ薄ク, 或ハ扁平, 葉狀, 下部概チ莖狀ヲナシ, 上部ハ分裂セズ(即チ一枚ノ葉狀ヲナスモノ), 或ハ種々ニ(叉狀又ハ兩緣ヨリ) 分裂シ, 緣邊又ハ中肋ヨリ種々副出シ, 此等副出シタル部分ヲ以テ分枝ス; 各部ハ基部ヨリ頂端マデ多少明ニ見ラルベキ一條ノ中肋ヲ存シ, 中肋ハ往々細キ側脈ヲ分岐ス, 而シテ薄ク若クハ厚クシテ, 其厚キトキハ明ニ他ト區別セラルベキ中層ト皮層トヲ存シ, 其皮層ハ外部ノ方ホド小ナル細胞ヨリ成リテ表面ニ直角ニ叉狀ニ連ナレル列ヨリ或ル. 成長端ハ横ニ關節セル, 概チ甚ダ明ナル成長點細胞ヲ存シ, 概チ甚ダ正シク配列セル中層細胞ヲ存ス; 然レドモ中層ノ細胞ハ時ニ後ニ至リテ各方面ニ分裂スルガ爲ニ此正シキ配列ヲ不明ヲラシムルコトアリ. 中軸ハ多クハ成長點細胞マデ達シ, 早晚厚ク皮層ヲ以テ蔽ハルヽニ至リテ中肋ヲ形成ス. — 四分孢子囊群ハ散在シ, 多クハ中肋ノ兩側ニ對ヲナシテ生ズレドモ, 後往々兩者相通ジテ一群トナルコトアリ. 胎原列ハ散在シテ生ジ, 多數ノ場合ニハ中肋ノ中軸ニ坐ス. 囊果ハ散在シ, 時ニハ通常副出シテ生ジタル小サキ成實葉ニ限ラレテ存シ, 外方(多クハ兩面ニ)ニ膨起シ, 概チ脈ノ上ニ坐ス; 胎座ハ概チ僅ニ形成セラレ, 時トシテハ果皮ノ上部ト絲狀

組織ヲ以テ連絡セラル。成胞絲(即チ此場合ニハ仁ト云フベキモノ)ハ多少穹狀ニ隆起ス;胞子ヲ形成スル絲ハ同時ニ形成セラレテ緩ク分岐シ、或ハ順次相次デ胞子トナル、然ルトキハ成胞裂絲(即チ小仁ト云フベキモノ)ヲ形成シテ此裂絲ハ多少密ニ集合ス;胞子ハ一個ヅ、成リ若クハ短キ連鎖ヲナシ其頂端ノ細胞ヨリ形成セラレ或ハ成胞裂絲ヲナストキハ其各細胞ハ殆ド總テ胞子トナリ、打見タル所ニテハ不規則ニ團集ス

備考: 従前ハ五六十種ノ種類ヲ包含シタル一大屬ナリシガ近ク J. Agardh 氏ノ根本的研究ニ依リテ數屬ニ分タレ、今日ニテハ僅ニ十余種ヲ含メルモノトナレリ;多クハ太平洋若クハ太西洋ノ北部ニ産ス。模範種ハ *D. Sanguinea* (Linné) Lamour. ニシテ北部及南部太西洋ニ産ス。——屬ノ名ハ著名ナル植物學ノ庇護者 Baron Delessert 氏ノ名譽ノ爲ニ設ケタルナリ。

Delesseria fimbriata De la Pylaie.

かしわばこのはのり 岡村 稱。

第 LXXXIII 圖版。

體ハ葉狀ニシテ纖維根ヲ以テ立チ、根ハ其處此處ニ新タニ葉ニ開張ス。葉ハ倒卵形ニシテ羽狀ニ分レ、裂片ハ漸次分レテ線狀—長橢圓形ノ葉トナリ、中肋ナク若クハ中肋ヲ存シ、中肋ハ上部ニ消失シ、緣邊ニ鋸齒狀並ニ波狀ヲナス。主部ノ中肋ハ多少長キ莖ト連ナリ、扁平ニシテ、下部少シク肥厚シ、上部ハ殆ド葉ノ表面ニ隆起スルコトナク、稍幅濶クシテ周圍ト明ニ區別セラル、而シテ上方ニ進ムニ隨ヒ漸次消滅シ遂ニ不明トナル。側脈ハ幼キ植物ニテハ明ナラズ、或ハ僅ニ之ヲ見ルベシト雖モ、稍老成セルモノニテハ稍明ニシテ對生シ約 45 度ノ銳角ヲナス。四分胞子囊ヲ有スル體ニアリテハ葉ノ緣邊ニ

小ナル披針狀ノ葉ヲ密ニ總ノ如ク生ジ、此小葉ニ孢子ヲ生ズ。小葉ノ縁邊ハ銳キ鋸齒ヲナシ或ハ自身更ニ往々同様ナル小葉ヲ總ノ如ク對生ス。此小葉即チ成實葉ノ中肋ニ當ル部分ノ兩側ニ一個ヅ、ノ群ヲナスヲ以テ恰モ相對シテ生ズルガ如ク後往々相合シテ一塊トナル。孢子ハ又成實葉ヲ有スル葉ノ裂片ノ側脈ノ兩側ニモ生ズ。囊果ハ體ノ裂片ノ上部ノ中肋若クハ側脈以外ノ部分ニ生ジ無柄ナリ(予ノ有スル標本ニテハ之ヲ見ル能ハズ)。色ハ淡紅色ナリ。質ハ薄キ膜質ニシテ紙ニ附着スルコト充分ナラズ。

產地：くしべにひばト一所ニ生ズ。ボボロチニー(沿海洲); 樺太; キリタツブ及濱中(釧路)。四分孢子囊：一八月(樺太)。

分布：Terra nova(北氷洋); オホーツク海。

備考：本種ハ *Delesseria sinuosa* (Good. et Woodw.) Lamour. ニ酷似シテ往々彼此ノ區別明ナラザルガ如シト雖モ、本種ハ中肋ノ上部不明ナルト側脈ノ角度彼ヨリモ銳角ナルトヲ以テ區別スベク、且四分孢子囊ヲ有スル小葉アルヲ以テ異ナリトス。

第 LXXXIII 圖版. 1: かしわばこのはのり, *Delesseria fimbriata* Delapyl. ノ實ナキモノ(樺太東岸産), $\frac{1}{1}$.—2: キリタツブ産, $\frac{1}{1}$.—3: 二個ノ幼キ體, $\frac{1}{1}$.—4: 中軸ヲ通シテ切リタル縱斷面, $\frac{220}{1}$.—5: 幼キ體ノ頂端ヲ表面ヨリ見タルモノニシテ中軸ハ不明ナリ, $\frac{340}{1}$.—6: 四分孢子囊ヲ有スル總狀ノ小葉ヲ附ケタルモノ(ボボロチニー産, 八月三十一日), $\frac{1}{1}$.—7-8: 同上ノ一部, 約 $\frac{5}{1}$.—9: 四分孢子囊群ノ横斷面, $\frac{91}{1}$.—10: 同上ノ一部, $\frac{175}{1}$.

Delesseria Middendorffii Rupr.

Nom. Jap: *Naga-konoha-nori*.

PL. LXXXIV; PL. LXXXV, Fig. 1-7.

Delesseria Middendorffii Rupr. Tange des Ochotskischen Meeres 1847, p. 237, Taf. 12; J. Ag. Sp. Alg. p. 696; Id. Epicr. p. 497; De Toni Syll. Alg. IV, p. 708; 岡村, 日本藻類名彙 p. 50.

The present plant is so well described by Ruprecht that no further detail will be needed. Only I am here to give some descriptions of the structure of frond and cystocarps.

In the cross-section of a young leaf, we find two layers of cells the inner median and the outer epidermal. Cells of the median layer, which are cubical or rectangular, are much larger than the epidermal ones. As the part grows in thickness infra-cortical cells are gradually formed and the membrane becomes more or less thickened by a thick cortication on the midrib portion. The central axis is not well marked out in a little advanced leaf, but in the apical portion of a very young leaf we may clearly see the apical cell and a few axial cells as it is shown in PL. LXXXV, Fig. 5 and 7, and PL. LXXXIV, Fig. 8.

I have found cystocarps on the plants having smaller obovate or oblong leaves forming rosette-like clusters abundantly proliferated from older fronds of the preceeding year, as shown in PL. LXXXIV, Fig. 3-9, which have been obtained in April and June at Urakawa, Prov. Hidaka in Hokkaido. Urakawa is too southern locality for the distribution of this species and so I am not sure that fruit-bearing plant is always such as has here been described. Procarps are produced in pairs on both sides of axial cells in very young leaves



1 9 8 2 6 3 15 11 10 14 4 5 12 13 7
Delesseria Middendorffii Rupr. ながこのほり Fig. 1-7.
Chordaria abietina Rupr. まつも Fig. 8-15.

proliferated from basal portions of fasciculately arising leaves as illustrated in PL. LXXXIV, Fig. 7, *a* and *b*. They consist of 4 cells carried on "Tragzelle" which is connected with an axial cell. Cystocarps are ovoid or almost spherical, tipped or blunt at apex, 0.6 mm as long as broad and furnished with a short pedicel, somewhat longer or shorter.

Hab.: Cast up ashore. East and west coasts of Kabafuto (Saghalin); Urakawa (Prov. Hidaka); Mashike (Prov. Teshiwo); Cape Povorochini (Russian coast?). Cystocarps: April—June (Urakawa).

This plants is known to the people inhabiting in the neighborhood of the Cape Povorochini as edible seaweeds under the name of 'Chikaputsuro' or 'Setakemaa'.

PL. LXXXIV. Fig. 1: sterile frond of *Delesseria Mittenдорffii* Rupr. from Cape Povorochini, $\frac{1}{4}$.—Fig. 2: another sterile portion of 2-years-old frond from Kabafuto (Saghalin,) $\frac{1}{4}$.—Fig. 3: fructified 2-years-old frond from Urakawa, $\frac{1}{4}$.—Fig. 4: one of leaf-clusters of fig. 3, $\frac{8}{1}$.—Fig. 5: leaves proliferated in a rosette-like cluster from the older membrane, *a a*, $\frac{5}{1}$.—Fig. 6: two leaflets proliferated on both surfaces of the midrib of the older membrane, $\frac{8}{1}$.—Fig. 7: two cystocarps and very young proliferations *a* and *b*, bearing procarps within, $\frac{1.5}{1}$.—Fig. 8: *a* of fig. 7 viewed from the surface to show procarps through the cortical layer, $\frac{2.1}{1}$.—Fig. 9: two procarps; *a*, axial cell; *t* "Tragzelle", $\frac{2.2}{1}$.—Fig. 10: cystocarp, $\frac{2.2}{1}$.

PL. LXXXV, fig. 1-7. Fig. 1: cross-section of the portion marked *a* in fig. 6 of PL. LXXXIV, $\frac{1.2}{1}$.—Fig. 2: portion of the same; *m*, cells of the median layer, $\frac{2.1}{1}$.—Fig. 3: cross section of a younger leaf, $\frac{5.4}{1}$.—Fig. 4: portion of fig. 3, $\frac{1.7.5}{1}$.—Fig. 5: apical portion of a very young leaf in surface view, $\frac{2.2.0}{1}$.—Fig. 6: cross-

section of a very young leaf same as fig. 5, $\frac{220}{1}$.—Fig. 7: terminal and a little lower portions of one and the same median longitudinal section of a young leaf as fig. 5, $\frac{175}{1}$.

Delesseria Middendorffii Rupr.

ながこのはのり 岡村 稱

第LXXXIV圖版; 第LXXXV圖版, 1-7圖.

根ハ圓盤狀ニシテ概テ濶ク, 多數ノ植物ヲ叢生ス. 體ハ葉狀ニシテ下部ヨリ頂部マデ通ゼル中肋ヲ有シ, 中肋ハ葉ノ下部ノ方稍隆起スレドモ上部ハ隆起スルコトナシ, 而シテ葉ノ老成セルモノハ漸次中肋ニ増厚シテ膜狀部ハ漸ク朽廢シ, 所々ニ其殘片ヲ存ス; 斯クノ如シテ體ノ下部ハ稍老成セルモノニテハ莖ノ如キ狀ヲナス. 體ノ伸長ノ方法並ニ分枝ハ體ノ中肋ノ兩面ヨリ葉ヲ副出スルニ依リテ成ル. 葉ノ幼キモノハ倒卵形又ハ長橢圓形ニシテ始メ短ク後漸ク長クナリ時ニ披針狀ナルコトアリ; 多クハ長キ倒卵形ニシテ下方ニ細長ク頂部鈍圓ナリ, 而シテ幼者ニハ中肋ヲ見ザレドモ(肉眼ニテ)其漸ク長ズルニ至レバ中肋ハ多少明ナリ. 葉ハ其濶キモノハ多少波皺スレドモ細キモノハ平坦ニシテ縁邊ハ全縁ナリ. 予ノ標品ニテハ側脈ハ之ヲ見ザレドモ老成者ニハ之アリト記サレタリ, 而シテ時ニハ側脈ニ沿フテ斜ニ分裂スト云フ. 葉ノ斜ニ分裂スルコトハ予ノ標品ニテモ之ヲ見ルコト少ナシトセズ. 葉ノ長キモノハ 8-10 cm ニシテ幅ハ 1-3 cm アリ, 體ノ長サハ 30 cm 以上ニ達ス.

葉ヲ横斷スレバ二層ノ細胞ヨリ成レルヲ見ルベシ, 一ハ即チ中層ニシテ一ハ皮層ナリ; 中層ノ細胞ハ皮層ノモノヨリ大ニシテ多角形ヲナシ, 始メハ各一層ナレドモ後漸ク分裂シ

テ數層ノ皮層細胞ヲ形成ス。中軸ハ各部ニ往々不明ナレドモ葉ノ幼キモノニテハ成長點細胞ハ明ニ之ヲ見ルベク、此ニ續キテ多少中軸細胞ヲ見ルヲ得ベシ。

囊果ハ第 LXXXIV 圖版 3-9 圖ニ示シタル如ク前年ノ老體ヨリ多數ニ小サキ倒卵形又ハ長橢圓形ノ葉ヲ花叢狀ニ副出セル植物ニ於テ見タリ；此植物ハ四月並ニ六月北海道日高國浦河ニテ採集シタルモノニシテ、浦河ハ此種ノ分布區域上稍南方ニ偏セルヲ以テ其囊果ヲ有スル體ノ形狀常ニ斯ノ如クナルヤ否ヤヲ保セズ。胎原細胞ハ葉ノ基部ヨリ副出セル極メテ幼キ葉ノ中軸細胞ノ兩側ニ對ヲナシテ形成セラレ、中軸細胞ト直接ニ接セル細胞ヨリ四個細胞ニテ成レル胎原列ヲ着ク。此胎原列ヲ戴ケル細胞(第 LXXXIV 圖版 9 圖 4)ヨリ後ニ助細胞ヲ生ズルナルベシ。囊果ハ卵圓體又ハ殆ド球狀ニシテ頂端少シク突起シ又ハ鈍圓ニシテ、0.6 mm 長ク又同ジホドノ徑ヲ有シ、其ト同長若クハ稍短キ柄ヲ有ス。色ハ鮮紅色ナリ。質ハ膜質ニシテ往々紙ニ附着セズ。

產地：海濱ニ打揚ラル。樺太東西兩海岸；日高國浦河；天鹽國増毛；ボボロチニー岬(沿海洲?)。囊果：四月—六月(浦河)。

分布：オホーツク海。

此植物ハボボロチニー岬附近ノ土人之ヲ「チカブーツロー」又ハ「セタケマー」ト稱シ食用トスルモノ、如シ。

第 LXXXIV 圖版. 1: ながこのほのり, *Delesseria Middendorffii* Rupr. ノ實ナキ體(ボボロチニー岬産), 1.—2: 二年生ノ實ナキ體(樺太産), 1.—3: 二年生ノ囊果ヲ熟シタル體(浦河産), 1.—4: 第 3 圖ノ葉叢ノ一ツ, 5.—5: 稍老成セル葉, $\alpha\alpha$ ヨリ花叢狀ニ副出セル葉, 5.—6: 舊葉ノ中肋ノ兩面ヨリ二個ノ小葉ノ出ル狀, 5.—7: 二個ノ囊果ト、内部ニ胎原細胞ヲ藏スル極メテ幼キ葉, α 及 β , トヲ示ス。

$\frac{15}{1}$.—8: 第7圖ノ a ヲ表面ヨリ見タルモノニシテ皮層ヲ通シテ胎原細胞ヲ示ス, $\frac{91}{1}$.—9: 二個ノ胎原細胞; c , 中軸細胞; d , 胎原ヲ附ケタル細胞, $\frac{390}{1}$.—10: 嚢果, $\frac{22}{1}$.

第LXXXV圖版, 1-7圖. 1: 前圖版ノ第6圖ニ a 線ヲ以テ示シタル部分ノ横斷面, $\frac{12}{1}$.—2: 同上ノ一部; m , 中層ノ細胞, $\frac{21}{1}$.—3: 幼キ葉ノ横斷面, $\frac{54}{1}$.—4: 第3圖ノ一部, $\frac{175}{1}$.—5: 極メラ幼キ葉ノ頂部ヲ表面ヨリ見タルモノ, $\frac{220}{1}$.—6: 第5圖ト同シ幼キ葉ノ横斷面, $\frac{220}{1}$.—7: 第5圖ト同様ナル幼キ葉ノ中肋ヲ通シテ斷リタル同一斷面ノ頂部ト稍下部ナル一部, $\frac{175}{1}$.

Chordaria abietina Rupr.

Nom. Jap: *Matsumo*.

PL. LXXXV, Fig. 8-15.

Chordaria abietina Rupr. in Farlow List of Mar. Algae of the United State, 1875, p. 357; J. Ag. Till Alg. Syst. II. p. 74, t. 3, f. 2; Okam. Alg. Jap. Exsic. Fasc. II, no. 91; 岡村, 日本藻類名彙 p. 124.

Fronds gregarious or solitary, 20-25 cm long. *Root* scutate. Main axis simple, slightly compressed, tapering upward and densely surrounded on all sides by radiating patent ramuli. Ramuli 2-4 cm long, tapering at both ends, slightly compressed, narrowly linear in outline, solid when young, tubular when old, mostly simple, sometimes branched. *Zoosporangia* elliptical or oblong formed at the base of assimilatory filaments. Gametangia transformed from lower articulations of assimilatory filaments in one or double moniliform rows, simple or branched. Plant diaecious. *Colour* dark brown.

Substance lubricous and the plant imperfectly adheres to paper in drying.

Hab.: On rocks or stones near high tide. Chishima (Kurile Islands); Hakodate; Otaru; Prov. Rikuchu, Prov. Rikuzen, Prov. Iwaki; Mito and Kawajiri (Prov. Hitachi); Cape Inuboe (Prov. Shimōsa). Sporangia of both kinds:—March–May (Cape Inuboe).

This plant is largely used as an edible seaweed in this country.

PL. LXXXV, fig. 8-15. Fig. 8: fronds of *Chordaria abietina* Rupr. in nat. state and size.—Fig. 9: cross-section of a ramulus, $\frac{33}{1}$.—Fig. 10: ramuli branched, $\frac{1}{1}$.—Fig. 11: portion of the cross-section of a ramulus, $\frac{390}{1}$.—Fig. 12: longitudinal section of the growing apex of frond, $\frac{600}{1}$.—Fig. 13: portion of the longitudinal section of sterile frond, $\frac{390}{1}$.—Fig. 14: gametangia, $\frac{600}{1}$.—Fig. 15: zoosporangia, $\frac{390}{1}$.

Chordaria C. Agardh, 1817.

まつも属.

CHORDARIEAE, CHORDARIACEAE.

まつも科, まつも亜科.

體ハ可ナリ大ニシテ線狀, 分岐シ, 多少柔滑ナリ. 構造ハバレンキマ組織ニシテ縦ニ列セル細胞ヨリ成リ, 細胞ハ外部ニ進ムニ隨テ長サト太サトヲ減ズ. 類化絲ハ僅ニ又ハ著シク棍棒狀ナリ. 單子嚢ハ楕圓形又ハ倒瓢狀ニシテ類化絲ノ基部ニ形成セラル. 複子嚢(即チ「ガメート」嚢)ハ類化絲ノ下部ノ關節ヨリ變成ス. 體ノ伸長ノ方法ハ幼キ類化絲ノ上部ノ關節ノ分裂ニ依テ成リ, 特ニ類化絲ヲ後生的ニ生ズルコトナシ.

約7種アリテ其一種 *Chordaria flagelliformis* (Müll.) Ag. ハ北氷洋、北太西洋及北部太平洋等弘ク分布シ、一種ハ太平洋北部ニ限ラレテ産シ、一種ハ亞弗利加ノ南岸ニ産シ、三種ハ「ニウフホルランド」及「タスマニア」ノ海岸ニ在リ。——屬ノ名ハ *Chorda* 又 *Chordae* (紐) ヨリ成ル、即チ體ノ線狀ナルモノ多キニ因ル。

Chordaria abietina Rupr.

まつも。

第LXXXV圖版, 8-15圖。

體ハ單獨又ハ簇生シ、20-25 cm 長ク、小サキ圓盤狀根ヲ以テ直立ス。主幹ハ單條ニシテ決シテ分岐スルコトナク、輕ク扁圓ニシテ上方ニ細ク、周圍ヨリ短キ小枝ヲ各方面ニ叢生スル狀恰モ松ノ枝ヲ見ルガ如シ。小枝ハ2-4 cm 長クシテ、廣開シ、皆殆ド同様ノ長サニシテ上部ノモノハ短ク、殆ド線狀ニシテ輕ク扁壓シ、兩端ニ細ク、幼者ハ中實ナレドモ、老成スルトキハ中空トナリ、概チ單條ナレドモ時ニ分岐スルモノアリ。體ノ構造ハ細長キ圓柱狀細胞ノ縱ニ連ルモノヨリ成リ、細胞間ヲ充填スル物質ハ稍固シ；類化絲ハ短キ棍棒狀ナリ。體ノ伸長ハ幼キ類化絲ノ上部ノ關節ノ分裂ニ依リテ成リ、特ニ類化絲ヲ後生的ニ生ズルコト *Eudesme*, おきなはもづく屬(第一卷79頁)ニ於ケルガ如キコトナシ；故ニ類化絲ヲ分裂スルト共ニ體ハ伸長スルヲ得ルナリ。單子囊ハ楕圓形ニシテ類化絲ノ基部ニ生ズ。複子囊ハ類化絲ノ下部ノ關節ヨリ變成シ、縱ニ一列又ハ二列ノ關節ヨリ成ル。二種ノ子囊ハ別々ノ體ニ生ズ。色ハ暗褐色ナリ。質ハ柔滑ニシテ乾燥スルトキハ稍紙ニ附着ス。

產地：高潮線附近ノ岩石ニ生ズ。占守島ヨリ下總國犬吠

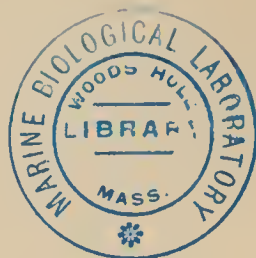
岬ニ至ル太平洋沿岸ニ産ス。 函館, 小樽, 陸中, 陸前, 磐城, 水戸, 及川尻, 犬吠岬。

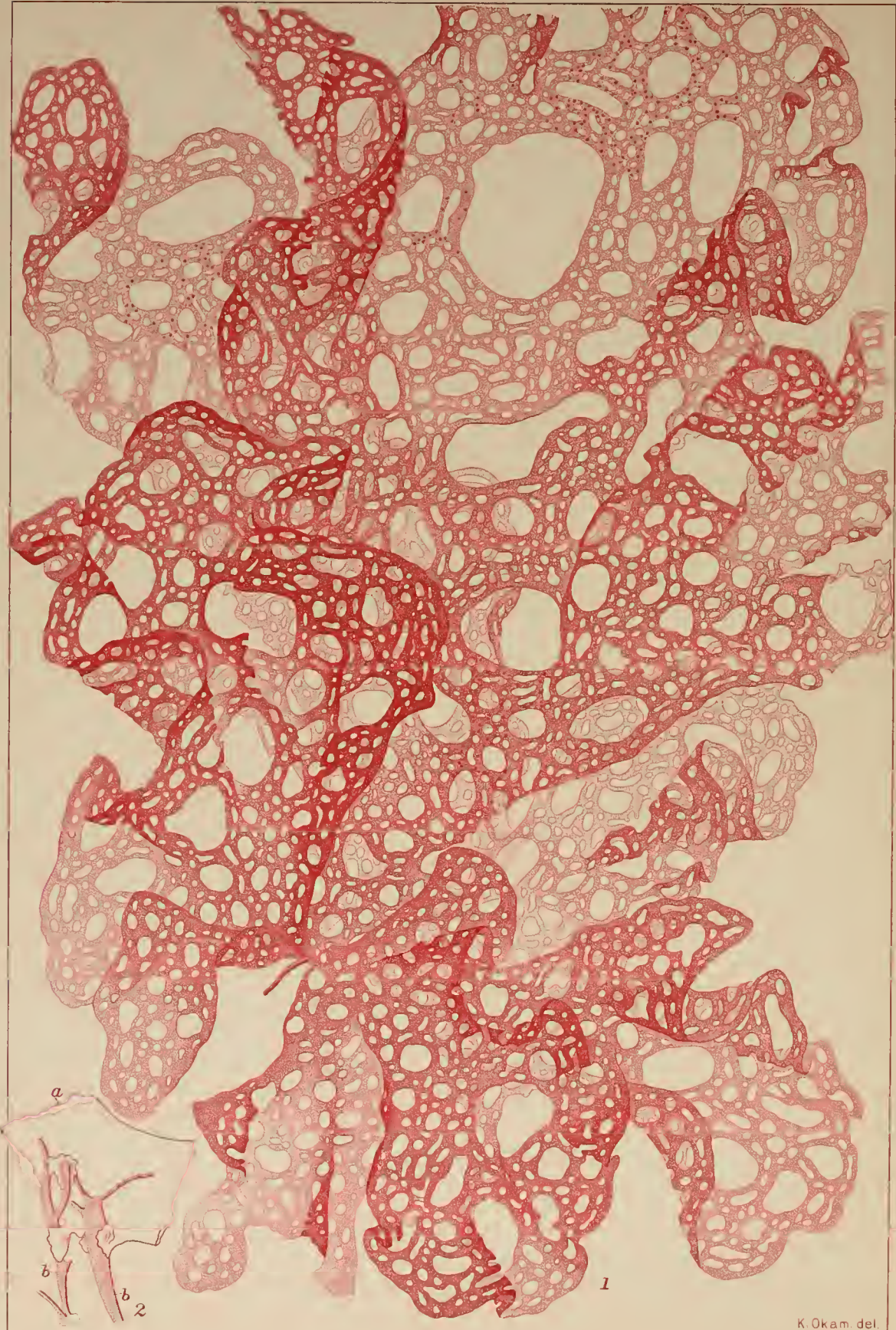
分布: オレゴン洲, カリフォルニア洲, 北太平洋。

本種ハ *Cordaria* 屬中ニテ特リ複子嚢即チ「ガメート」嚢ノ知ラレタルモノニシテ實ニ J. Agardh 氏ノ始メテ視察シタル所ナリ。 本植物ハ採集シタルマヽヲ小サキ四角形ニ抄キ乾燥シテ販賣ス。 之ヲ食スルニハ火ニ炙リ酢ニ浸シテ用フ。 三陸地方多ク之ヲ産シまつぼ又まつもト云フ。

第 LXXXV 圖版, 8-15 圖. 8: まつも, *Chordaria abietina* Rupr. ノ體ノ自然ノ狀態, $\frac{1}{1}$.—9: 枝ノ横斷面, $\frac{33}{1}$.—10: 枝ノ分岐シタルモノ $\frac{1}{1}$.—11: 枝ノ横斷面ノ一部, $\frac{390}{1}$.—12: 體ノ成長端ノ縦斷面, $\frac{600}{1}$.—13: 實ナキ體ノ縦斷面ノ一部, $\frac{390}{1}$.—14: ガメート嚢, $\frac{600}{1}$.—15: 單子嚢即チ游走子嚢, $\frac{390}{1}$.



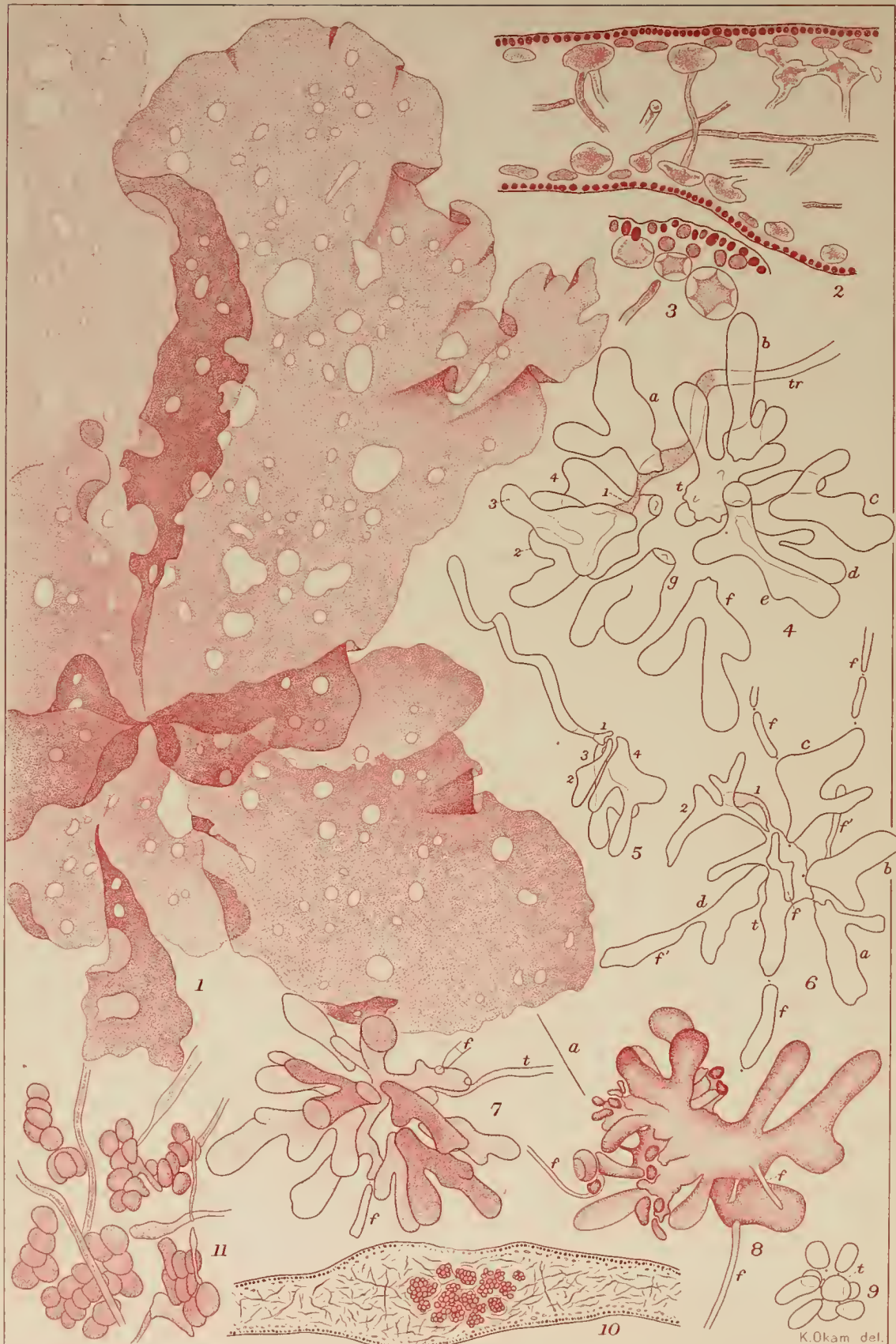




K. Okam. del.

2

Callymenia cribrosa Harv. ¹つかさあみ.



1 11 7 10 5 3 8 4 6 2 9
Callymenia cribrosa Harv. つかさあみ.

Callymenia cribrosa Harv.

Nom. Jap. : *Tsukasa-ami*.

PL. LXXXVI.

Callymenia cribrosa Harv. in *Transact. Ir. Acad.* Vol. 22, p. 555 ; Id. *Phyc. Austr.* t. 73 ; J. Ag. *Epicr.* p. 219 ; Dickie in *Journ. Linn. Soc. Bot.*, Vol. XV, 1876, p. 451 ; De Toni *Phyc. jap. nov.* 1895, p. 26 ; Id. *Syll Alg.* IV, p. 295.

Fronde gelatinoso-membranaceous, attaching to other algae or corals with minute scutate discs which are mostly formed near the base of frond or at any parts where the plant comes in contact with foreign bodies. Thus, the plant becomes, when fully grown, very much undulato-plaited and somewhat umbilicated, and it attains 30-60 cm. both in length and breadth with an irregularly roundish outline but scarcely two specimens of the same shape. Margin is quite entire, and wavy, and usually from casual laceration the outline becomes more lobed. At all ages the frond is pierced with holes ; but they vary in dimensions according to the age, either of the specimens, or of portions of them. In the very young frond, and in the expanding margins the holes are minute ; gradually they increase in size until they attain 3 cm. in diameter, and always preserve a tolerably regular circular or oblong outline. When the holes are very densely set the interstices between them are narrow-linear and the network resembling that of *Ulva reticulata* is formed, but when they are scattered the interstices are very broad and perforations are irregular. *Cystocarps* are minute, dot-like, dark-red, and sunk in the substance of the frond, through which they are scattered. The filaments of the medullary region are rather laxly interwoven. The colour when quite fresh is a deep crimson-lake, from which it passes

through all grades of rose-red to yellowish and white. The substance is thin-membranaceous, gelatinous and tender, and the plant in drying strongly adheres to paper.

Development of the Cystocarp. A mother cell from which procarpial branch and auxiliary cells arise is formed as a branch from a roundish infra-cortical cell which is situated beneath the epidermal cells. Around the mother cell there are formed some eight auxiliary cells from it, which are roundish or oblong at the beginning, but afterward assume elongated and lobed or branched tuber-like shape; so also the mother cell. Cells of procarpial branch are probably formed subsequently from the mother cell of the auxiliary cells as its lateral branch and consist of 4 cells, three of which, excepting the carpogonium, take the shape like the auxiliary cells, only differing from them in their somewhat smaller size. Carpogonium carries very much elongated and twisted trichogyne. After fertilisation has taken place auxiliary cells and procarpial cells fuse to each other, thus forming a very large branched roundish or oblong mass. Now the sterile filaments which previously lie in the neighbourhood of auxiliary cells come in contact with them or with fused cell, either by forming pit-connection or directly fusing themselves with the fused cell. From the fused cell spore-forming filaments are branched out in all directions and thus cystocarp characteristic to the genus is completed.

Hab.: On stones, corals, shells, algae etc. near low water mark. Oshima (Pror. Idzu? Mosely), Amakusa-jima (Prov.Higo), Kashiwa-jima. (Prov. Tosa)

PL. LXXXVI. Fig. 1: frond of *Callymenia cribrosa* Harv. bearing cystocarps, in nat. size.—Fig. 2: basal portion of the frond, *a*, attaching to the branches of *Hypnea*, *b*, $\frac{5}{8}$.

PL. LXXXVII. Fig. 1: portion of a younger frond in nat. size.

—Fig. 2: cross-section of frond, $\frac{200}{1}$.—Fig. 3: portion of the cortical layer, $\frac{300}{1}$.—Fig. 4: cells of the carpogonial branch, 1-4, and auxiliary cells, $a-g$, carried on the mother cell, t ; cells slightly detached from each other by pressure; tr , trichogyne; $\frac{600}{1}$.—Fig. 5: carpogonial branch, 1-4, in nat. state, $\frac{600}{1}$.—Fig. 6: fusion of the cells of carpogonial branch, 1-2, and auxiliary cells $a-d$, with the mother cell, t ; f, f , sterile filaments coming into fusion by forming pit-connection; f, f' the same fusing directly, $\frac{600}{1}$.—Fig. 7: the same; t , trichogyne; a , surface of frond, $\frac{600}{1}$.—Fig. 8: the same; process of fusing more advanced, and gonimoblast gradually to be protruded from the fused mass; f, f , filaments $\frac{600}{1}$.—Fig. 9: auxiliary cells and the mother cell, t , $\frac{300}{1}$.—Fig. 10: cystocarp, $\frac{91}{1}$.—Fig. 11: some neucleoli, $\frac{600}{1}$.

Callymenia J. Agardh 1842.

カリメニア屬.

CALLYMENIEAE (GIGARTINACEAE).

すぎのり科, カリメニア亞科.

體ハ扁平又ハ葉狀, 分裂スルコトナク, 又ハ不規則ニ分裂シ或ハ裂片ヲ有シ若クハ數回又狀ニ分レ, 時ニ縁邊ヨリ副出シ, 又時ニ篩狀ノ孔ヲ有ス, 細胞及絲組織ナリ; 即チ, 體ノ中央ニ在リテハ又狀ニシテ且外方ニ分枝セル細キ絲狀細胞(即チ髓組織)ヨリ成リテ多少緩ク結合シ更ニ同様ノ形セル根様細胞ヲ伴ナフ; 皮部ノ細胞ハ内部ノモノハ大ニシテ漸次外方ニ小サク, 外部ニハ密ニ相結合ス.—四分胞子ハ皮層ノ細胞ヨリ變成シ, 散在シ, 十字様ニ分裂ス. 嚢果ハ體ノ表面ニ散在シ體中ニ埋マリ, 體ノ一方ノ面若クハ兩面ニ膨出ス. 受胎シタル助細胞ヨリ出ル成胞枝ノ末端ハ相集リテ複總狀ニ分岐

シ、多クハ外方ニ擴ガルヲ以テ胞子ハ概テ稍大ナル團塊ヲナシテ仁ノ中心ノ周圍ニ集ル。

20-30種アリテ極メテ種々ナル海ニ産シ、其一部ハ可ナリノ大サニシテ極メテ美シキ色ヲ有ス。摸範種タル *C. reniformis* (Turner) J. Ag. ハ太西洋ノ英、佛及西班牙ノ沿岸ニ知ラル。——體ノ構造ハ各種ニヨリテ異ナルヲ以テ、他日精細ノ研究ヲ經ル曉ニハ今日此屬ニ屬スル種類ハ或ハ數多ノ屬ニ分ル、モノアラント云フ。——屬ノ名ハ *callos* (美シキ) ト *hymen* (膜) トヨル成ル即チ體ノ膜質ニシテ美シキヨリ起レリ。

Callymenia cribrosa Harv.

つかさあみ 岡村 稱

第 LXXXVI—LXXXVII 圖版。

體ハ粘質アル膜ニシテ小サキ吸盤狀附着器ヲ以テ他ノ海藻、珊瑚、介殼等ニ附着ス；此附着器ハ多クハ體ノ基部ニ近ク成ルト雖モ其他何レノ部分ニテモ他物ト接觸スル所ニハ之ヲ形成ス；故ヲ以テ、體ノ充分成長シタル時ハ甚シク波狀ノ皺ヲ有シ、襞ヲナシ、往々恰モ一枚ノ膜ノ中央ヲツマミタルガ如キ狀ヲナス。體ノ長サ幅サトモ 30-60 cm. ニ達シ、不規則ナル圓形ヲナス；然レドモ同一ノ形狀ノ標本ヲ二個得ル能ハザル程種々形狀ヲ異ニス。緣邊ハ全緣ニシテ波狀ヲナシ、通常波浪其他ノ爲メニ裂ケテ多クハ分裂ス。老幼ノ別ナク體ハ孔ヲ存ス、然レドモ孔ノ大サハ標本ノ年齡ニヨリ又ハ體ノ部分ニヨリ大小一ナラズ。幼者及體ノ緣邊ニ在ル孔ハ小ナレドモ、漸次其大サヲ増シ、其極直徑 3 cm. ニ達シ常ニ可ナリ正シキ圓形又ハ長楕圓形ヲナス。孔若シ密ニ相集ルトキハ細キ線狀ノ間隙ヲ殘ス狀恰モあみあをさ (*Ulva reticulata*) ノ如シト雖モ、若シ散布シテ存スルトキハ其間隙大ナルヲ以テ體ハ恰モ



K. Okam. del.

Dasyphylla Tagoi Okam. n. sp. たぶのり.

篩ノ如キ狀ヲ呈ス。——囊果ハ小ニシテ點狀ヲナシ、暗紅色ニシテ體ノ實質中ニ埋存シ、散布ス。髓部ノ絲狀組織ハ稍緩シ。色ハ新鮮ナルトキハ鮮紅色ナレドモ褪色スルトキハ黃色トナリ遂ニ白色トナル。質膜質ニシテ薄ク粘滑、柔軟ニシテ、乾燥スルトキハ密ニ紙ニ附着ス。

囊果形成ノ順序。 胎原ノ細胞列及數個ノ助細胞ヲ形成スル母細胞ハ表皮細胞下ニ存スル圓キ皮下細胞ノ枝トシテ生スル細胞ヨリ成ル。此母細胞ノ周圍ニ概テ八個ノ助細胞ヲ形成ス。此助細胞ハ初メ圓形又ハ長橢圓形ナレドモ後長クナリテ塊莖狀ヲナシ分裂或ハ分枝ス、母細胞モ亦同様ノ形ヲナス。胎原列ノ細胞モ恐クハ後ニ至テ助細胞ノ母細胞ヨリ其枝トシテ形成セラレ、四個細胞ヨリ成リ、其三個ハ胎心細胞ヲ除キテ助細胞ト同様ノ形ヲナス、唯稍大サノ小ナルノミ。胎心細胞ハ長クシテ捻レタル受精毛ヲ戴ク。受胎後助細胞ト胎原列ノ細胞トハ互ニ癒合シテ大ナル圓キ又ハ長橢圓形ノ塊狀ヲナス。此際助細胞附近ニ在リタル絲狀細胞ハ或ハ連絡點ヲ形成シ或ハ之ヲ形成スルコトナク直接ニ助細胞若クハ癒合細胞ト癒合ス。此癒合シタル細胞ヨリ成胞絲ハ各方面ニ分枝シ、廣ク且ツ遠ク組織中ニ分枝シ、其枝端ニ小塊狀ノ胞子團(即チ小仁)ヲ形成シ、此小團相集リテ囊果ヲ成ス。

產地： 石、介殼、藻類、珊瑚等ノ上ニ在リテ低潮線附近ニ生ズ。大島(伊豆? Moseley)、天草島、柏島(土佐)。

分布： タスマニア及ニウフホルランド。

第LXXXVI 圖版： 1: 囊果ヲ有スルつかさあみ, *Callymenia cribrosa* Harv. ノ自然ノ狀態, $\frac{1}{1}$ —2: つかさあみノ體ノ一部, a , ノ他ノ海藻, b , ニ附着スル狀, $\frac{5}{1}$ 。

第LXXXVII 圖版： 1: 稍幼キ體ノ一部, $\frac{1}{1}$ —2: 體ノ横斷面, $\frac{220}{1}$ —3: 皮層組織ノ一部, $\frac{390}{1}$ —4: 胎原細胞, 1, 2, 3, 4, ト助細胞,

a, b, c, d, e, f, g , トガ母細胞 t , ト相連絡シ居タルモノヲ少シク壓
ヲ加ヘテ離レシメタルモノ; I : 胎心細胞; tr : 受精毛, $\frac{600}{1}$.—5:
胎原細胞列ノ自然ノ状態; I : 胎心細胞, $\frac{600}{1}$.—6: 胎原細胞, $I, 2$,
ト助細胞 a, b, c, d , トガ母細胞 t , ト癒合シ f, f , ナル周圍ノ絲狀細
胞ハ連絡點ヲ形成シテ連絡シ, f^f ハ直接ニ癒合セルモノ, $\frac{600}{1}$.
—7: 同上ノ稍少シク進ミタルモノ; 符號前ニ同ジ; a , 體ノ表面;
 $\frac{600}{1}$.—8: 同上ノ一層進ミタルモノニシテ一大癒合細胞ヲ生ジ
成胞絲ヲ出シタルモノ, $\frac{600}{1}$.—9: 未ダ胎原細胞列ヲ生ズルニ至
ラザル助細胞ノ母細胞, t , ト助細胞, $\frac{390}{1}$.—10: 成熟セル囊果ヲ
藏セル體ノ横斷面, $\frac{90}{1}$.—11: 小仁, $\frac{600}{1}$.

Dasyphila Tagoi Okam. nov. sp.

Nom. Jap.: *Tagonori*.

PL LXXXVIII.

Frond cylindrical (lower portion compressed by pressure?), 3-4
times pinnately branched in a distichous and alternate manner, some-
what narrowed at the basal portion rising from the fine fibrous hold-
fast. Branches widely patent, tapering toward extremity and mode
of branching is subcorymboso-paniculate carrying longer ones in the
middle portion gradually becoming shorter upward and the longer
branches again branch off smaller ones in the similar manner. The
ultimate ramuli and younger branches are hairy carrying colored
many-times dichotomous hairs which soon dropping off leave the
scars on the surface of the branch presenting annular dot-like marks
at short intervals. The growing apex of the frond carries 3-5
verticillately arising articulated branches which grow out into hairs

that is “Kurztriebe” of German authors. From the first basal cell of the “Kurztriebe” are formed cortical cells which become gradually smaller outward. Of five “Kurztriebe,” those on the sides standing in a distichous way grow up here and there into branches, the others remaining as hairs. In the cross section of a branch there is a large central cell, from which five basal cells of “Kurztriebe” are cut off verticillately and the interspaces are filled up with cortical cells which are derived from the basal cells of “Kurztriebe.” Fruits of both kinds unknown. *Colour* vinoso-red, almost black in drying. *Substance* soft and fleshy in fresh state.

Hab. : On rocks between tide-marks ; Wagu (Prov. Shima.)

Of the present genus only two species *D. Preisii* Sond. and *D. cryptocarpa* (Holm.) Schm. have been found in New Holland. The present plant which has the structure a little different from and simpler than the typical species, is a distinct new species which has been collected by Mr. M. Tago; hence the specific name.

PL. LXXXVIII. Fig. 1: frond of *Dasyphylla Tagoi* n. sp. in nat. size.—Fig. 2: portion of an older branch dropped off hairs in nat. size.—Fig. 3: portion of a ramulus bearing “Kurztriebe,” $\frac{22}{1}$, —Fig. 4: growing apex of frond bearing “Kurztriebe”; *a*, apical cell. $\frac{600}{1}$.—Fig. 5-7: cross sections of several portions of branches through the node; $\frac{91}{1}$, $\frac{54}{1}$, $\frac{54}{1}$ respectively.—Fig. 8: cross-section of a thicker branch through the internode, $\frac{54}{1}$.—Fig. 9: free upper portion of “Kurtztriebe,” $\frac{91}{1}$.—Fig. 10: one-half of the longitudinal section of a branch, $\frac{54}{1}$.

[Correction: For *Dasyphylla* of PL. LXXXVIII read *Dasyphila*.]

Dasyphila Sonder 1845.

たごのり属.

DASYPHILEAE (CERAMIACEAE).

いざす科, たごのり亞科.

體ハ直立シ,圓柱狀或ハ稍扁圓ニシテ,全面ニ單條又ハ分岐セル關節セル毛ヲ密生シ,兩側ヨリ短キ枝ヲ互生ス;枝ハ稍上方ニ屈曲シ,一部ハ有限成長ヲナシテ枝ヲ分ツコトナク,一部ハ無限ニ成長シテ主枝ト同様ニ益々分枝ス. 各部ハ關節セル中軸ヲ有シ,中軸ヨリ細キ絲狀ノ分枝セル短條ヲ輪生ス,其基部ナル關節ハ其部ノ枝條ノ細胞間物質中ニ埋マリ,其部ノ關節ヨリ皮層細胞ヲ分裂シテ中軸ヲ圍繞ス;皮層細胞ノ内部ノモノハ大ニシテ外部ノモノハ小サク,其性質ハ根樣細胞ナリ而シテ輪生セル短條ノ上部ハ密ニ左右ニ分枝シテ體ノ外部ニ遊離シ毛狀ヲナシテ體ノ全面ヲ蔽フ. 中軸ハ横ニ關節セル頂細胞ヲ有ス. 短條ハ(4-)6個ニシテ,一方ノ側ニ偏シ,主枝ニ於テハ多少相接近シ隣次シテ輪生セル短條ハ體ノ左右ニ互生セル枝ニ伸ブ;而シテ體ノ皮層(根樣細胞ヨリ成レルモノ)ハ後ニ至テ其間ニ後生的ニ形成セラレタル細キ絲狀ノ根樣細胞ノ介在スルモノアルガ爲ニ層ヲナシ其外面ハ密ニ短毛ヲ以テ蔽ハル、ニ至ル.——四分胞子囊ハ三角錐形ニ分裂シ,體ノ外面ニ遊離シテ出ル短條ノ枝ノ頂ニ生ズ. 胎原列ハ四個細胞ヨリ成リ,僅ニ屈曲シ,中軸ヨリ出ル短條枝ノ基部細胞ニ生ジ,極メテ幼キ有限成長ノ枝ノ頂端ニ近ク少數ニ形成セラレ皮層ノ内ニ埋在ス. 助細胞ハ胎原列ヲ擔ヘル細胞ヨリ形成セラル. 囊果ハ短キ有限成長ノ枝ニ成リ,(其部ノ枝ノ短キガ爲ニ恰モ其枝ノ頂端ニ在ルガ如シ),皮層ノ内ニ在リテ中軸ニ附着シ,外方ニハ皮部ヨリ隆起シ,其部ニ特ニ密

生セル且ツ多數ニ分枝セル短條ノ毛ヲ以テ圍繞セラル然レドモ之ヲ圍ム特別ノ苞枝ヲ存スルコトナシ。仁ハ單塊ヨリ成ル。仁ノ塊ハ多數ノ各方面ニ擴ガリタル成胞裂絲ニ分レ此成胞裂絲ハ順次ニ形成セラレタルモノニシテ球狀ニ圍集シ其部ニ特ニ著シク形成セラレタル毛ノ層ノ内ニ於テ體ノ皮層ノ表面ニ存シ、長キ細キ仁柄細胞ヲ以テ(皮部ノ内ニ圍マレテ)中軸細胞ニ附着ス。

從來唯一種 *D. Preissii* Sonder ナルモノ「アウスタラリア」ノ西及南部ノ海ニ知ラレタリ。——屬ノ名ハ *Dasy*(毛多キ)ト *phileo*(愛スル)トヨリ成ル。

上記ノ屬ノ性質ハ從來知ラレタル只一種ノミニ就テ爲サレタルヲ以テ本邦ノモノニ就テハ一致セザル點多シ。

Dasyphila *Tagoi* Okam. 新種.

たごのり 岡村 穰.

第 LXXXVIII 圖版.

體ハ圓柱狀(下部ハ壓力ノ爲ニカ扁圓ナリ), 3-4回兩縁ヨリ羽狀ニ互生シ, 下部稍細クシテ, 細キ絲狀根ヲ以テ立ツ。枝ハ廣開シ, 頂端ノ方ニ細ク爲リ, 分枝ノ法ハ稍繖房狀ノ複總狀ニシテ枝ノ中央部ニ稍長キ枝ヲ有シ, 漸次上方ニ短クナリ, 其長キモノハ又同様ニ小枝ヲ分ツ。最末小枝及ビ幼キ枝ハ數回叉狀ニ分レタル紅色ノ毛ヲ有スル爲メ多毛ニシテ, 此毛ハ後早ク脱落スルヲ以テ枝ノ表面ニ少距離ニ於テ環狀ニ列セル點狀ノ痕ヲ印ス。體ノ成長點ハ3-5ノ一列ノ關節ヨリ成レル枝ヲ輪生ス; 此枝ハ毛即チ所謂短條枝ニ伸ブルモノナリ。短條枝ノ第一ノ基部ノ細胞ヨリ皮層細胞ヲ分裂ス; 皮層細胞ハ内部ノモノホド大ニシテ外方ニハ小ナリ。五條ノ輪生セル短條枝ノ中, 枝ノ兩縁ヨリ出ルモノハ其處此處ニ伸長シテ枝トナリ, 殘餘ノモノハ毛トナリテ存ス。體ヲ横斷スルトキハ

中央ニ一條ノ大ナル細胞ヨリ成レル中軸アリテ夫ヨリ五個ノ短條枝ノ基部細胞輪生シ此基部細胞ヨリ分裂シテ形成セラレタル皮層細胞ヲ以テ圍繞セラル。——果實ハ今詳ナラズ。

產地： 潮線間ノ岩石ニ生ズ。 志摩國和具(多湖氏)。

本屬ノモノニテハ從來只一種 *D. Preissii* Sond. ノ濠洲ニ知ラレタルト *D. cryptocarpa* (Holm.) Schm. トアルノミナリ。 本種ハ摸範種ノ構造トハ稍異ナリテ其ヨリ簡單ナル構造ヲ有スレドモ明ニ新シキ一種ニシテ實ニ多湖實⁵輝⁶氏ノ採集スル處ナリ、之ニ因テ種名及和名ヲ附セリ。

PL. LXXXVIII. 1: たごのり, *Dasyhila Tagoi* 新種ノ自然大。—2 毛ノ脱落セル老タル枝ノ一部, $\frac{1}{1}$ 。—3: 短條枝ヲ有スル最末小枝ノ一部, $\frac{22}{1}$ 。—4: 短條枝ヲ有スル成長點; a, 頂細胞, $\frac{600}{1}$ 。—5-7: 各部ノ枝ノ横斷面ニシテ節部ヲ通ジテ切リタルモノ; 5: $\frac{91}{1}$, 6: $\frac{54}{1}$ 7: $\frac{54}{1}$ 。—8: 節間部ヲ通シテ斷リタル稍太キ枝ノ横斷面, $\frac{54}{1}$ 。—9: 短條枝ノ上部ニシテ體外ニ遊離セル部分, $\frac{19}{1}$ 。—10: 枝ノ縦斷面ノ半分, $\frac{54}{1}$ 。

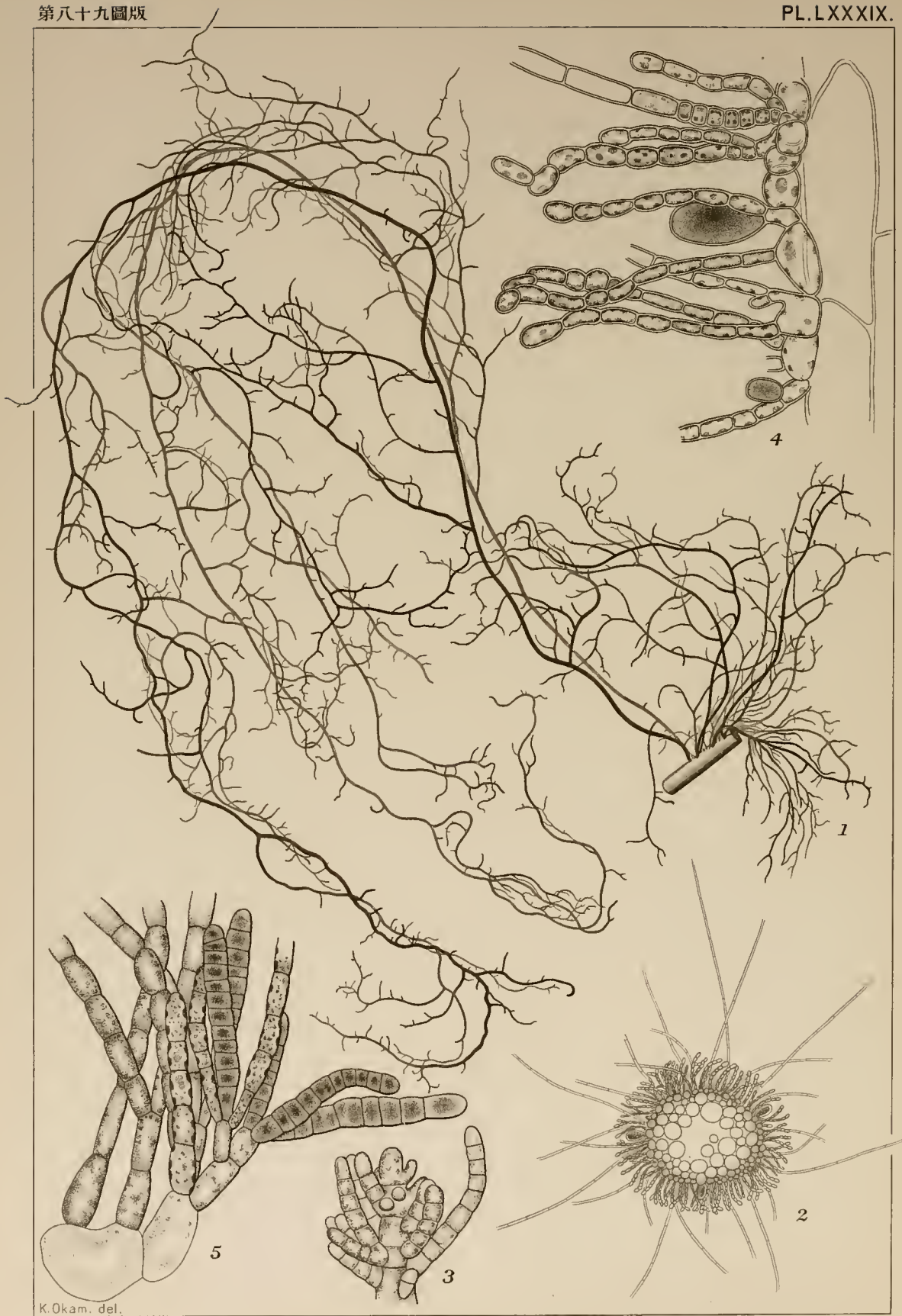
(正誤： 第 LXXXVIII 圖版ノ *Dasyphylla* ハ *Dasyphila* ノ誤。)

Cladosiphon decipiens (Suring.) Okam

Nom. Jap.: *Modzuku*.

PL. LXXXIX.

Cladosiphon decipiens (Suring.) Okam. Alg. Jap. Exsic. No. 87 —
Mesogloia decipiens Suring. Mus. bot. de Leyde Tom. I, p. 75, t. 25 ;



K. Okam. del.

5 3 4 2 1
Cladosiphon decipiens (Suring.) Okam. もづく.

De Toni Syll. Alg. III, p. 428 ; J. Ag. Till Alg. Syst. II, p. 75 ; 岡村, 日本藻類名彙 p. 123.

Frond filiform and often entangled on the frond of *Sargassum*, 3-4 times equally branched in an alternate manner from the base, here and there with dichotomous branches, about 1 mm. thick at base gradually narrowing upward and the plant attains 30 cm. or more in length. Branches and branchlets very soft and pliable, ascending or widely diffused and flexuose in various directions with short ultimate ramelli patent and approaching. Frond is more or less hollow, internally consisting of elongated broader cells which are somewhat loosely coalesced. Longitudinal growth of the frond is performed by the horizontal division of subterminal cells, and the assimilatory filaments are subsequently formed as lateral outgrowth. Assimilatory filaments simple or branched, short and filiform, slightly torulose, somewhat becoming thicker toward extremity and a little curved above. Colorless hairs very abundant, especially so in younger frond. Unilocular sporangia oblong formed at the base of an assimilatory filament. Pleurilocular sporangia filiform, consisting of one row of cells, and are transformed from the assimilatory filaments. *Colour* olive-brown. *Substance* slimy and the plant firmly adheres to paper in drying.

Hab. On the frond of *Sargassum* between tide marks or near the low tide ; in calm places. Prov. Shima, Mikawa, Boshyu, Sado, Noto, Yechigo, Iyo, Hizen, Hoki, Tango.

Suringar mentions that the present plant grows on rocks ; but as far as we know it always grows on the frond of *Sargassum*, and never on stones or rocks. From his illustrations the plant described by him does not seem to differ from the present plant which has been suspected by J. Agardh from its structure to belong to the present genus. The plant in question is widely used among us as an edible substance.

PL. LXXXIX. Fig. 1: frond of *Cladosiphon decipiens* (Suring.) Okam. in nat. state and size.—Fig. 2: cross-section of a branch, $\frac{54}{1}$.—Fig. 3: apical growing portion of frond, $\frac{600}{1}$.—Fig. 4: portion of the longitudinal section of frond bearing unilocular sporangia, $\frac{390}{1}$.—Fig. 5: pleurilocular sporangia, $\frac{600}{1}$.

Cladosiphon Kützting 1843.

も　づ　く　属.

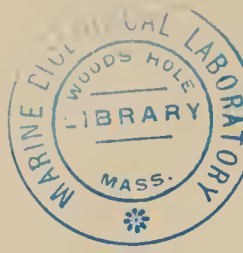
EUDESMEAE (CHORDARIACEAE).

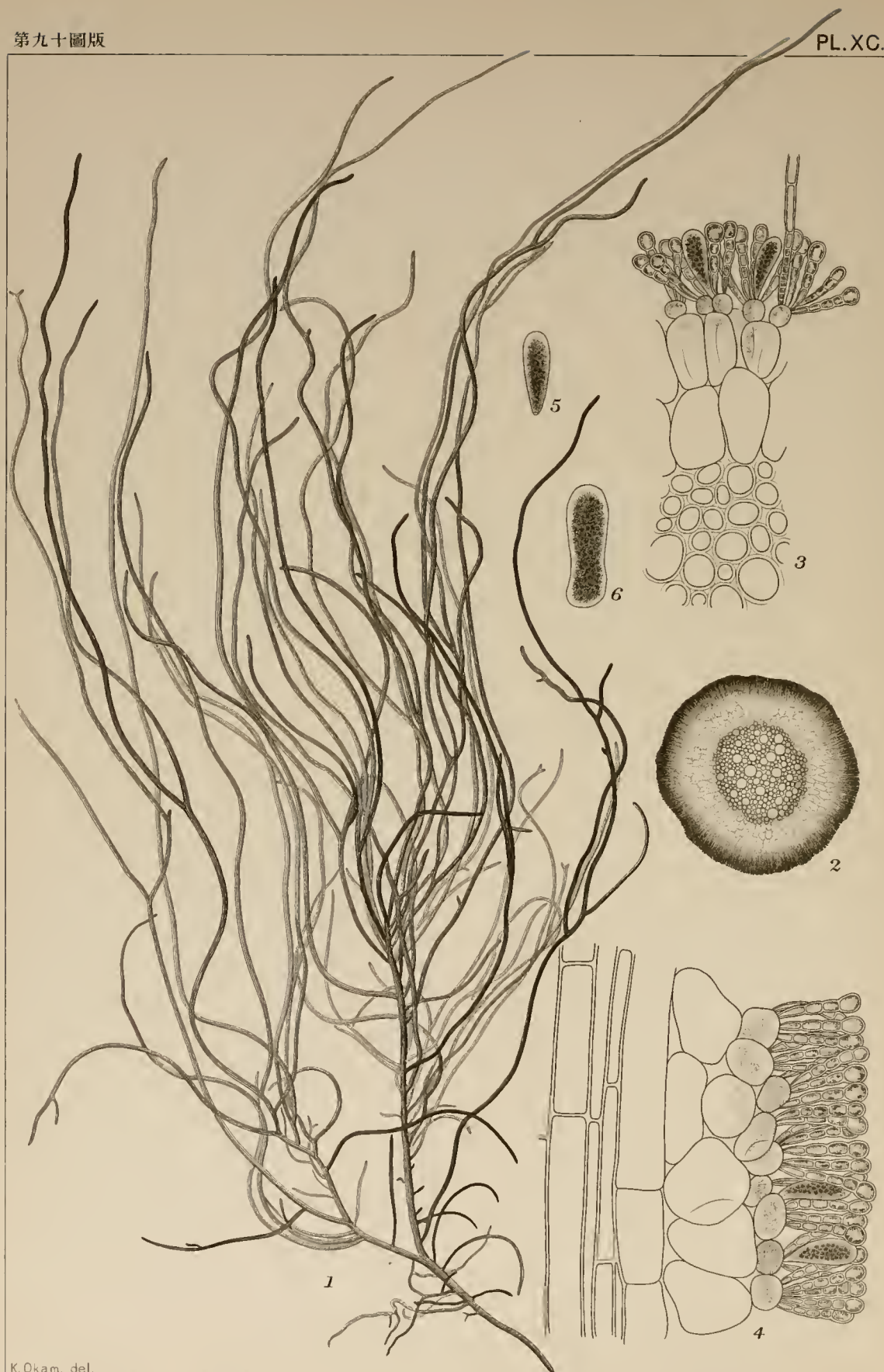
まつも科, おきなはもづく亞科.

體ハ絲狀ニシテ分枝シ, 多少中空ナリ. 體ノ内部ノ組織ハ可ナリ密ニ束狀ヲナシテ縦並ニ稍斜ニ走レル細胞ヨリ成リ, 内部ノモノハ圓柱狀ニシテ稍麥酒樽狀ヲナシ最外部ノモノハ殆ド球狀又ハ稍横ニ擴ガレリ. 類化絲ハ束狀ニ分岐シ稍短クシテ殆ド圓柱狀又ハ稍棍棒狀ニシテ往々屈曲ス. 單子囊ハ長橢圓形又ハ倒卵形ニシテ類化絲ノ基部ニ生ズ. 複子囊(即ガメート囊)ハ圓柱狀又ハ圓柱狀紡錘狀ニシテ少ナクトモ大部分ハ一列ニ列ナリ, 類化絲ヨリ變成ス. 體ノ伸長ノ方法ハ主軸ノ頂端附近ノ細胞横ニ分裂シテ成リ, 其側面ニ後生的ニ分枝スルモノ類化絲トナルナリ.

約6種アリテ北部太西洋, 地中海, 日本沿岸, 「ニウホルランド」及「タスマニア」ノ太平洋, 及印度洋ニ産ス. 其内 1-2 種ノモノハ此属以外ノモノアルベシトナリ. — 属ノ名ハ *Clados* (枝) ト *siphon* (管) トヨリ成ル; 即チ體ノ形狀ト構造トニ因レリ.

[注意. 第一卷第90頁ニ *Mesogloea* ヲもづく属トシタリ, 今改メテふともづく属トナス; 因テ拙著日本藻類名彙第123頁ノもづく属モ亦ふともづく属ト訂正ス.]





K. Okam. del.

Chordaria flagelliformis (Muell.) Ag. ながまつも。

Cladosiphon decipiens (Suring.) Okam.

も づ く (又藻の花もづく), 海 蘊.

第 LXXXIX 圖版.

體ハ絲狀ニシテ概テほんだわら類ノ體上ニ錯綜シ, 3-4 回基部ヨリ互生シ, 其處此處ニ叉狀ノ枝ヲ交ヘ, 下部ニ於テハ約 1 mm. 太ク漸次上方ニ細クナリ, 長サ 30 cm. 若クハ其以上ニ達ス. 枝及小枝ハ甚粘柔ニシテ緩ク斜上シ或ハ廣開シ, 種々ニ屈曲シ, 最末小枝ハ短クシテ互ニ相接近ス. 體ハ多少中空ニシテ内部ハ長キ太キ細胞ヨリ成リ稍緩ク結合ス. 體ノ伸長法ハ頂部ニ近キ細胞横ニ分裂シテ成リ, 其側面ヨリ後ニ生スル枝ハ類化絲トナルナリ. 類化絲ハ單條又ハ分岐シ, 短キ絲狀ニシテ少シクウネリ, 頂端ノ方ニ稍膨大シ, 上方少シク屈曲ス; 無色ノ毛ハ極メテ多ク殊ニ幼者ニ多シ. 單子囊ハ長橢圓形ニシテ類化絲ノ基部ニ形成セラル. 複子囊ハ絲狀ニシテ一列ノ細胞ヨリ成リ類化絲ヨリ變成ス. 色ハ帶綠黃色ナリ. 質ハ極メテ粘質ニ富ミ, 乾燥スル時ハ體ハ紙ニ固着ス.

產地: 潮線間又ハ低潮線附近ノほんだわら類ノ體上ニ生ジ, 灣内ノ如キ浪ノ靜ナル所ニ在リ. 志摩, 三河, 安房, 佐渡, 能登, 越後, 伯耆, 丹後, 伊豫, 肥前, (島原, 平戸). 子囊: 一五月.

Suringar 氏ハ本植物ヲ以テ岩石上ニ生ズト記セドモ, 予輩ノ知レル範圍ニテハ然ラズシテ常ニほんだわら類ノ上ニ在リ, 此故ニ藻ノ花ノ稱アリ; 其石上ニ生ズルモノハ屬種ヲ異ニス; 而シテ氏ノ記載セル圖ニ依テ見ルモ氏ノ謂フ所ノ植物ハ實ニ本種ニ外ナラズ. 本種ノ *Mesogloea* ニアラザルコトハ既ニ J. Agardh 氏ノ Till Alg. Syst. II, p. 76 ニ於テ其構造ヨリ本屬ニ入ルベキモノナラズヤト疑ヘル所ナリ. Martens 氏ノ Preus. Expedition

n. Ost-Asien p. 113 = 長崎ニ於テ *Cladosiphon erythracus* J. Ag. ヲ得タリ
ト記セルモノハ多分本種ニ外ナラザルベシ.

第LXXXIX圖版. 1: もづく, *Cladosiphon decipiens* (Suring.) Okam.
ノ自然大.—2: 枝ノ横断面, $\frac{5.4}{1}$.—3: 體ノ成長端ニシテ側枝トシ
テ類化絲ノ生ズル狀, $\frac{6.00}{1}$.—4: 單子嚢ヲ有スル體ノ縦断面ノ一
部, $\frac{3.90}{1}$.—5: 複子嚢, $\frac{6.00}{1}$.

Chordaria flagelliformis (Muell.) Ag.

Nom. Jap.: *Naga-matsumo*.

PL. XC.

Frond terete, branching on all sides with branches elongated and flagelliform, simple or sparingly branched. Plant attains 40 cm. or more in length with the diameter of ca. 15 mm. in the thicker portion, gradually tapering upwards. Frond is solid when fully grown, internally consisting of firmly coalescing thick-walled cylindrical cells running longitudinally, which form the medullary tissue and externally of roundish oblong, more or less loosely set cortical cells, from which assimilatory filaments and colorless hairs arise. Assimilatory filaments are simple and clavate consisting of 4-5 cells terminated with a little larger cell. Unilocular sporangia oblong or elongated obovate formed at the bases of assimilatory filaments. *Colour* dark brown in reimmersion, almost black when dried. *Substance* soft and lubricous in reimmersion, but rigid and brittle when dried.

Hab.: Chishima (Kurile Isls.), Kabafuto.

PL. XC. Fig. 1: frond of *Chordaria flagelliformis* (Muell.)

Ag. in nat. size.—Fig. 2: cross-section of branch, $\frac{5.4}{1}$.—Fig. 3: portion of the same as fig. 2, $\frac{2.20}{1}$.—Fig. 4: portion of the longitudinal section of frond bearing unilocular sporangia, $\frac{2.20}{1}$.—Fig. 5-6: two unilocular sporangia, $\frac{2.20}{1}$; $94 \times 34 \mu$, $60 \times 20 \mu$ respectively.

Chordaria flagelliformis (Muell.) Ag.

ながまつも 岡村 稱

第 XC 圖版.

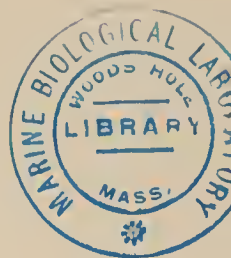
體ハ圓柱狀, 絲狀ニシテ各方面ニ分枝シ, 枝ハ長クシテ鞭ノ如ク單條又ハ僅ニ分枝ス. 體ハ長サ 40 cm. 若クハ其以上ニ達シ太サハ太キ部分ニテ約 1.5 mm. アリ, 漸次上方ニ細シ. 體ノ充分成長シタルトキハ實質ニシテ内部ニ密ニ結合セル厚キ膜ノ圓柱狀細胞ヨリ成リ, 此モノ縦走シテ髓層ヲ形成シ, 外方ハ稍圓キ又ハ長橢圓形ニシテ多少緩ク結合セル皮層細胞ヨリ成リ, 此部ヨリ類化絲及無色ノ毛叢ヲ生ズ. 類化絲ハ單條ニシテ棍棒狀ヲナシ 4-5 個ノ細胞列ヨリ成リ頂端ニ稍大ナル細胞ヲ戴ク. 單子囊ハ長橢圓形又ハ長味アル倒卵形ニシテ類化絲ノ基部ニ形成セラル. 色ハ乾燥品ヲ水ニ浸ストキハ暗褐色ニシテ, 乾燥スルトキハ殆ド黑色ナリ. 質ハ乾燥品ヲ水ニ浸ストキハ柔軟ニシテ粘滑ナレドモ, 乾燥スルトキハ硬クシテ脆シ.

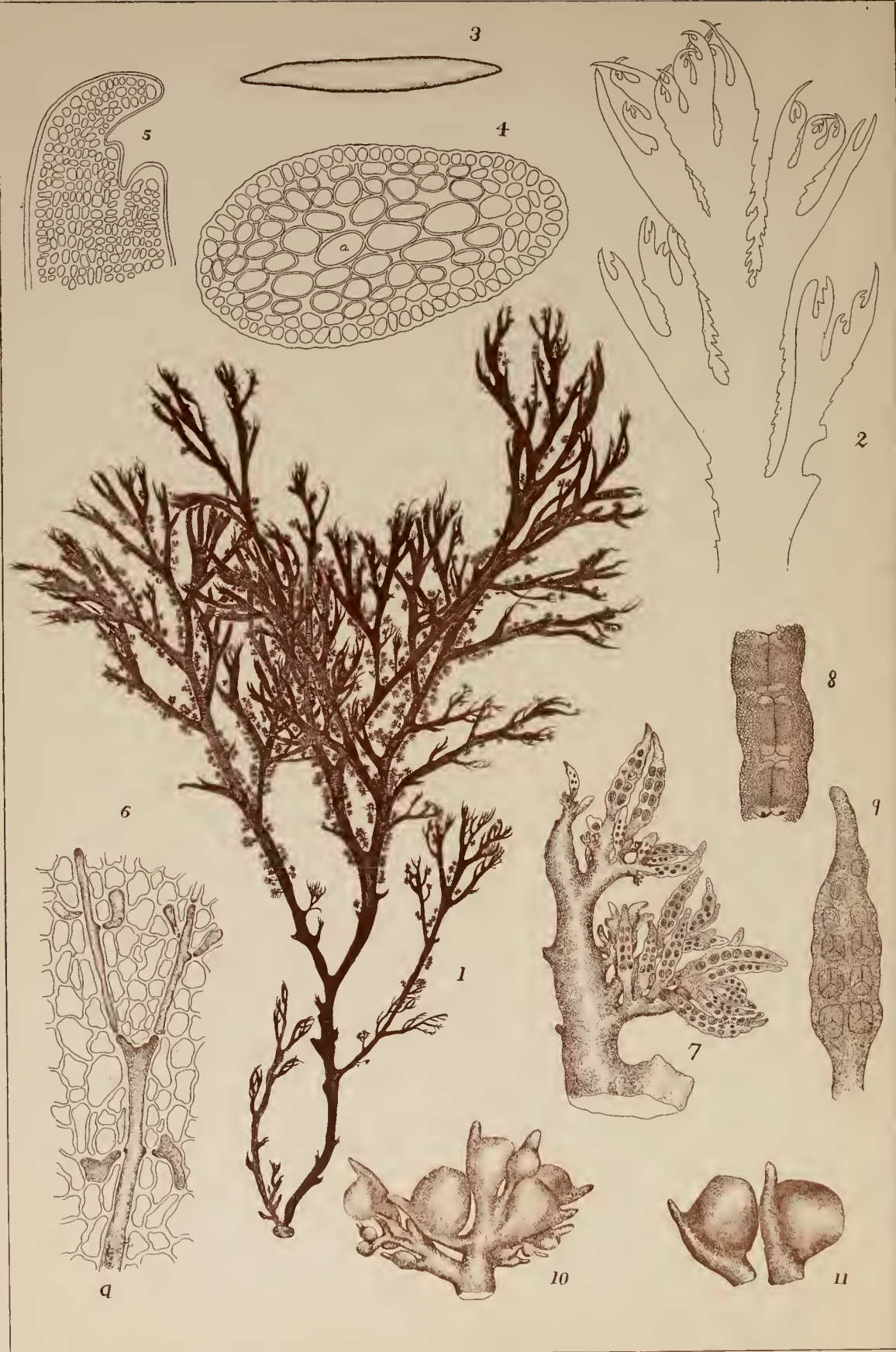
產地: 千島諸島, 樺太島.

分布: 太西洋, 北部歐米ノ沿岸, バルチック海, 北氷洋, カムサツカ.

第 XC 圖版. 1: ながまつも, *Chordaria flagelliformis* (Muell.) Ag. ノ自然大.—2: 枝ノ横斷面, $\frac{5.4}{1}$.—3: 第 2 圖ノ一部, $\frac{2.20}{1}$.—4: 單子囊ヲ有スル體ノ縦斷面ノ一部, $\frac{2.20}{1}$.—5-6: 二個ノ單子囊, $\frac{2.20}{1}$; 5: $94 \times 34 \mu$; 6: $60 \times 20 \mu$.

Chordaria (まつも屬) ノ性質ハ第二卷第七集 124 頁ニ在リ.





Odonthalia corymbifera (Gm.) J. Ag. はけさきのこぎりひば

Odonthalia corymbifera (Gmel.) J. Ag.

Nom. Jap.: *Hake-saki-nokogiri-hiba*.

PL. XCI.

Odonthalia corymbifera (Gmel.) J. Ag. Sp. Alg. II, 3, p. 894; De Toni Syll. Alg. IV, p. 1136; 岡村, 日本藻類名彙, p. 66 — *Fucus corymbiferus* Gmel. Hist. Fucor. p. 124. — *Atomaria corymbifera* Rupr. Alg. Ochot. p. 21. — *Odonthalia Gmelini* Post. et Rupr. Illustr. p. 14, Tab. XXVIII; Kütz. Sp. Alg. p. 847.

Many fronds standing from a common scutate disc. Fronds 25 cm. high, ancipito-compressed near the base, more flat above, 1-2.5 mm. broad at the base, with an indistinct midrib, often attaining 4-5 mm. in breadth upward, decompound pinnate in an alternate manner, and along both margins more or less densely fimbriated with minute pinnae standing near to each other. Branches attenuated at the base, patent with roundish axils, subcuneato-linear, flabellato-incised at apices with incurved laciniae. Ultimate branchlets dentiform or much subulate. In the cross-section the axial cell is scarcely discernible and cells of the cortical layer are thickly formed which are somewhat loosely set. In the longitudinal section there is found a fine axis consisting of slender elongated cells from which four short pericentral cells (only two in view) arise near the upper node; from the latter cells cortical cells are formed by further divisions. In the upper thinner part of the frond, an evanescent midrib is faintly visible. — *Fruits* are formed in marginal fimbriate pinnae which are ciliary and densely aggregated branching in a subcorymbose manner. Stichidia are transformed from the pinnulae, fasciculated on a short rachis; they are very short, scarcely 2 mm. long and about 3 times as long

as broad, attenuated to both ends, and fertile in the median part. Tetrasporangia prominently verrucose presenting two longitudinal rows on the flatish sides and each sporangia is covered by two large "Deckzellen" on the flank. *Cystocarps* are aggregated on the apices of minute pinnulae, sessile on the inner side of each pinnella, and appearing as if pedunculated at the base and calcarated at the apex; they are ovate with a wide mouth. *Colour* dark vinoso-red, almost black in drying. *Substance* membranaceous and the plant does not adhere to paper in drying.

Hab. : Urupp Isl.

PL. XCI. Fig. 1: fertile frond of *Odonthalia corymbifera* (Gmel.) J. Ag.; rather smaller frond, $\frac{1}{4}$.—Fig. 2: terminal portion of frond, $\frac{5}{1}$.—Fig. 3: cross-section of the median portion of frond, $\frac{1.2}{1}$.—Fig. 4: cross-section of the lower portion of frond; *a*, the axis, $\frac{2.0}{1}$.—Fig. 5: apices of flabellate lacineae, $\frac{2.0}{1}$.—Fig. 6: portion of the tangential section of frond; *a*, the axis, $\frac{5.4}{1}$.—Fig. 7: marginal pinnae bearing stichidia, $\frac{1.5}{1}$.—Fig. 8: portion of a stichidium viewed from the flank showing covering cells, $\frac{9.1}{1}$.—Fig. 9: stichidium viewed from the surface, $\frac{5.4}{1}$.—Fig. 10: portion of marginal pinnae bearing cystocarps on pinnulae, $\frac{4.2}{1}$.—Fig. 11: two cystocarps, $\frac{4.2}{1}$.

Odonthalia Lyngbye 1819.

のこぎりひば屬.

RHODOMELEAE (RHODOMELACEAE).

ふぢまつも科, ふぢまつも亞科.

體ハ直立シ, 扁平ニシテ兩縁ニ薄ク, 隆起セル中肋ヲ存シ, 兩縁ヨリ分岐シ, 細胞組織ニテ成ル. 長條枝ハ左右同形ノ構造ヲ有シ, 齒狀裂片ノ如キ小枝ヲ羽狀ニ互生ス; 其齒狀小枝ハ多小廣ク翼狀ヲナシ, 分裂スルコトナキ若クハ同様ニ齒狀ヲ

ナセル突出セル鋸齒ニシテ長條ノ縁邊ヨリ出ヅ;此鋸齒往々有限ナル若クハ無限ナル成長ヲナス所ノ長條枝ニ伸ブ。體ノ伸長ノ方法ハ單基的ニシテ交互ニ横或ハ斜ニ關節セル頂點細胞ヲ有シ、其一方ノ側面ニ發達スル關節細胞ハ直ニ枝トナルベキ細胞トナル。此等ノ枝トナルベキ細胞ハ頂細胞ヨリ先ニ進ミテ直ニ縁邊ノ鋸齒トナリ、或ハ強盛ニ成長シテ長條枝トナル;其縁邊ヨリスル鋸齒トナルモノハ外方ニ濶キ翼ヲ存ス。此際總テノ關節ハ四個ノ周心細胞(二個ハ表面ニ二個ハ左右ノ側面ニ)ト成リ、其四個細胞ハ直ニ種々ノ方面ニ於テ種々ノ數ニ細胞ヲ分裂ス;此細胞ハ何レモ同様ノ大サヲ有シ、後更ニ其細胞ヨリ稍小ナル外部ノ細胞ヲ分裂ス;此故ニ多管軸ノ中軸ハ之ヲ認ルコト能ハズシテ、周心細胞ハ直ニ稍小形ナル細胞ニ分裂シ、可ナリ廣キ範圍ヲ充タセル皮部細胞トナリテ中軸細胞ヲ包圍ス。後生的ノ枝ハ體ノ縁邊ヨリ副出スルコト稀ナラズ;即チ縁邊ノ齒片ノ腋ヨリ出デ、皮層細胞ヨリ生ズ。——生殖細胞ハ長條ノ頂部ニ生ズ;其長條ハ概テ多數密集セル短キ側枝ヲナスモノトス;或ハ兩縁ヨリ副出セル睫毛狀ノ小枝ニ生ズ。四分胞子囊ハ「スティギア」狀ヲナセル枝ニ生ズ;其枝ハ有限成長ヲナセル側枝ニシテ短ク、鋸齒ナク且ツ毛狀枝ナシ;此等ノ「スティギア」ハ蒴狀ニ伸ビ概テ僅ニ屈曲シ、扁平ニシテ左右兩縁ニ沿テ二列ニ相對スル胞子ヲ藏ス。四分胞子囊ハ之ヲ熟スル關節細胞ノ二個ヨリ成リ其部ノ中軸ノ左右ニ當ル周心細胞ノ上位ニ位スル細胞ヨリ形成セラレ、外部ハ二個ノ同長ナル蓋細胞ヲ以テ蔽ハル。精子器ハ短キ有限成長ノ枝ニ生ジ、其枝ハ鋸齒ナク、毛狀枝ナクシテ、稍長キ、扁平ナル葉狀ヲナシ、短キ柄ヲ有シテ頂端尖リ、其表面ニ小サキ精子細胞ヲ存ス。胎原列ハ簡單ニ成レル有限成長ノ側枝ニ多數ニ形成セラレ、毛狀枝ノ如ク簡單ニナレル縁邊ノ鋸齒ニ生ジ、其下部ノ關節細胞ノ一ヨリ形成セラレ、多管軸

ノ小柄ヲ有ス。 囊果ハ球狀-卵形又ハ漏斗狀ニシテ、太キ鋸齒アル又ハ分枝セル小柄上ニ支ヘラル、其小柄ハ即チ後實ヲ附ケタル枝トナルモノニシテ、通常其枝ニ一個ヲ着ケ、一條ノ長條ノ頂端若クハ體ノ緣邊ニ沿フテ(即チ緣邊ノ鋸齒ノ腋ニ)坐ス。 果皮ハ可ナリ厚ク、孢子絲ハ密集シ、孢子ハ棍棒狀ナリ。

約7-10種アリテ北半球ノ寒冷ナル海ニ生ズ。 模範種ハ *O. dentata* (L.) Lyngbye ナリ。——屬ノ名ハ *Odon*s 又 *Odontos* (齒) ト *hals* 又 *halos* (海) トヨリ成ル即チ體ノ形狀ニ因メリ。

Odonthalia corymbifera (Gmel.) J. Ag.

はけさきのこぎりひば。 岡村稱。

第 XCI 圖版。

體ハ數多同一ノ圓盤狀根ヨリ立ツ。 體ハ 25 cm. 高ク、基部ニ近ク扁平ニシテ、兩緣ニ薄ク、上部ハ一層扁平ニシテ下部ハ 1-2.5 mm. ノ幅ヲ有シ、中肋ハ不明ニシテ、上部ハ往々 4-5 mm. ノ幅アリ、複羽狀ニシテ互生シ、兩緣ニ沿フテ多少密ニ且相接近シテ小サキ小羽枝ヲ出ス狀恰モ緣ニ總ヲ附ケタルガ如シ。 枝ハ下部細ク、圓キ腋ヨリ廣開シ、線狀ニシテ上部ニ稍廣ク、枝端ハ扇狀ニ或ハ刷毛ノ頭ノ如ク分裂シ、其裂片ハ内方ニ屈曲ス。 小羽枝ハ齒狀又ハ錐ノ如ク細シ。 橫斷面ニテハ中軸細胞ハ之ヲ認ルコト容易ナラズ、皮層細胞ハ厚ク形成セラレ稍緩ク集ル。 縱斷面ニテハ細キ中軸アリテ細長キ細胞ヨリ成リ、四個ノ短キ周心細胞ニ相當スルモノ上方ノ節ニ近ク出ヅ、但シ斷面ニテハ中軸ノ左右ニアル二個ノミ認ルヲ得ベシ、皮部細胞ハ此細胞ヨリ分裂セラレテ形成セラル。 體ノ上部ノ稍薄キ部分ニテハ中肋ハ微カニ之ヲ認ムベク、上方ニ消滅ス。

生殖細胞ハ體ノ縁邊ニ生ズル短キ總ノ如キ羽枝ニ形成セラル。此羽枝ハ睫毛ノ如ク細ク、密ニ集リテ繖房狀ニ分岐ス。「ステイキジア」ハ此羽枝ノ小羽枝ヨリ變成セラレ、短キ軸ノ上ニ集リ、各極メテ短クシテ約2mm.程長ク、太サノ三倍ホドニ當リ兩端細ク、中央部ニ孢子ヲ生ズ。四分孢子囊ハ瘤狀ニシテ隆起シ、扁平ナル面ヨリ見ルトキハ二縱列ヲナシ其左右ノ側面ニテハ各二個ノ大ナル蓋細胞ヲ以テ蔽ハル。囊果ハ小サキ小羽枝ノ頂端ニ近ク密集シ、次位ノ小羽枝ノ内面即チ上面ニ坐ス、其狀恰モ各果ノ下部ニ短柄ヲ有シ、上部ニ距(ケヅメ)ヲ附シタルガ如キ觀アリ；而シテ卵圓形ニシテ廣キ果口ヲ有ス。色ハ暗紅色ニシテ、乾燥スルトキハ殆ド黑色ヲナス。質ハ膜質ニシテ乾燥スルトキハ紙ニ附着スルコト不充分ナリ。

產地： 得撫島。

分布： カムサッカ。

第XCI圖版 1: はけさきのこざりひば, *Odonthalia corymbifera* ノ實ヲ有スル體ノ稍小ナルモノ, $\frac{1}{1}$.—2: 體ノ上部, $\frac{5}{1}$.—3: 體ノ中央部ノ横斷面, $\frac{12}{1}$.—4: 體ノ下部ノ横斷面; α , 中軸, $\frac{220}{1}$.—5: 扇狀ニ分裂セル裂片ノ頂端, $\frac{220}{1}$.—6: 體ヲ表面ニ並行ニ切リタル縱斷面; α , 中軸, $\frac{54}{1}$.—7: 縁邊ヨリ生ズル小サキ羽枝ノ「ステイキジア」ヲ有スルモノ, $\frac{15}{1}$.—8: 「ステイキジア」ノ一部ヲ其左右ノ縁邊ヨリ見テ蓋細胞ヲ示ス, $\frac{21}{1}$.—9: 表面ヨリ見タル「ステイキジア」, $\frac{54}{1}$.—10: 縁邊ヨリ生ズル小サキ羽枝ノ一部ニシテ其小羽枝ニ囊果ヲ有スルモノ, $\frac{42}{1}$.—11: 二個ノ囊果, $\frac{42}{1}$.

Leveillea jungermannioides (Mart. et Hering) Harv.

Nom. Jap.: *Jabara-nori*.

PL. XCII.

Leveillea jungermannioides (Mart. et Hering) Harv. *Mar. Bot. of West. Aust.* p. 539; Schmitz in Falkenb. in Engl. und Prantl *Nat. Pflanzenfam., Algae*, p. 465; Falkenb. *Rhodomelaceen* p. 392, t. 6, f. 1-13, Tab. 14, f. 18-27; De Toni *Syll. Alg.* IV, p. 1033; 岡村, *日本藻類名彙* p. 70:—*Polyzonia jungermannioides* Zanard. *Alg. Mar. Rubr.* p. 47.—*Leveillea Schimperii* Harv. *Nereis Austr.* p. 72; Id. *Phyc. Austr.* t. CLXXI; Kuetz. *Sp. Alg.* p. 882; Id. *Tab. Phyc.* XV, t. 7, f. a-c.—*Leveillea gracilis* Kuetz. *Sp. Alg.* p. 882; Id. *Tab. Phyc.* XV, t. 7, f. d-f.

Plant creeping on the frond of another alga by means of small disc-like roots emitted at intervals along the lower surface of a surculus. The apex of the surculus is prolonged into a free portion, which is sparingly branched, and everywhere distichously and alternately pinnated with leaf-like pinnae from $\frac{1}{2}$ to nearly 1 mm. in length and a little shorter in breadth. Pinnae broadly ovate or subrotund, or occasionally oblong, slightly overlapping at the edges, rather obliquely inserted on the branch, notched or blunt at apex by the dropping off of one or two excurrent cells which are known to be prolonged into penicillate filaments. They are traversed on the upper surface by a slender midrib consisting of one row of cells, and are asymmetrical on both sides of the midrib, and are transversely areolated with oblong, hexagonal cells. They are almost horizontally spread out arising from the upper surface of frond and in the younger end of the branches, which is spirally inrolled on the dorsal side, the undeveloped pinnae are erect facing to each other; by this character the frond is



K. Okam. det.

Leveillea jungermannioides (Mart. et Hering.) Harv.

じゃばらのり

dorso-ventral. Branches endogenetically arise from axils of pinnae and the shoot. *Fruits* of both kinds unknown to me at present. *Colour* red. *Substance* soft and membranous. In drying the frond imperfectly adheres to paper.

Hab.: On *Sargassum*. Riukiu, Provs. Hiuga, Kii, Sagami, Kadzusa, Noto.

PL. XCII. Fig. 1: fronds of *Leveillea jungermannioides* (Mart. et Hering) Herv. creeping on the branch of *Sargassum* in nat. state and size; two smaller pieces in dried state, $\frac{1}{1}$.—Fig. 2: portion of branch viewed from the side, $\frac{12}{1}$.—Fig. 3: portion of branch seen from above, $\frac{33}{1}$.—Fig. 4: under-surface of a lamina, $\frac{91}{1}$.—Fig. 5: upper surface of lamina; *a, a*, midrib, $\frac{91}{1}$.—Fig. 6: bud of a branch endogenetically formed, $\frac{91}{1}$.—Fig. 7: insertion of a leaf and two young endogenetically arising branches, *a, a*, $\frac{91}{1}$.—Fig. 8: apical portion of a lamina which has dropped off a terminal deciduous hair, $\frac{390}{1}$.—Fig. 9: lateral view of a scutate root, $\frac{175}{1}$.—Fig. 10: cross-section of a branch and a lamina; *m*, the midrib of the leaf, $\frac{91}{1}$.

Leveillea Decaisne 1839.

じやばらのり属.

POLYZONIEAE (RHODOMELACEAE).

ふちまつも科, ポリゾニア亞科.

體ハ匍匐シ、圓キ吸盤狀根ヲ以テ他物ニ固着シ、枝端ハ游離シ、斜上スルコト罕ナラズ; 充分ニ形成セラレタル多管軸ハ終生皮層細胞ヲ有セズ。體ハ總テ腹背ノ構造ヲ有シ、毛狀葉ヲ有スル長條ト葉狀ヲナセル短條トヨリ成ル。長條ハ伸長シ、背面(即チ上面)ノ方ニ強ク卷キタル頂端ヲ有シ、葉狀ノ短條ヲ二列ニ互生ス; 此短條ハ未ダ周心細胞ヲ分裂セザル前第二ノ關節細胞ヨリ起リテ體ノ左右兩縁ヨリ生ジ、僅ニ背面ノ

方ニ偏シテ成ル;其始メ短條ノ下部ニ於テ兩側ニ廣ク翼ノ如ク擴ガリ,之ガ爲メ葉ノ如キ狀ヲナシ,其之ヲ生ズル部分ノ枝ノ軸ニ沿フテ附着シ,表面ハ横ニ列ビタル細胞ノ列ヨリ成リテ一層ノ面ニ擴ガリ葉ノ中肋ハ葉ノ表面ニ在リテ一列ノ細胞ヨリ成リ,其部ノミ二層ノ細胞ヲ有シ,中肋ノ左右ハ平均ニ擴ガリ,其頂端ハ早落性ノ毛茸ヲ存ス。枝ハ短條ノ基部細胞ヨリ內生的ニ起リ,斜ニ上部ニ伸長シ,葉ノ上部ノ縁ノ所ノ腋ヨリ伸ビ出ヅ。——四分孢子囊ハ有限若クハ無限或長ヲナセル側枝ノ「ステュキジア」狀ニ變形シタル部分ニ澤山ニ生ジ;其部ハ其枝ノ下部ニ當レル葉ノナキ部分ニシテ,「ステュキジア」ハ弓狀ニ屈曲シテ凸面ノ側ニ膨出シ,其部ニ一縦列ノ孢子ヲ藏シ,外方ハ常ニ小サキ蓋細胞ノ一圍ヲ以テ被包セラル。精子器及ビ胎原列ハ長條ノ成長端ニ近ク,短條ノ基部ニ於テ多數ニ形成セラレ,其一個一個ハ短縮セル內長性ノ枝ヨリ成ル。精子器ハ多少長キ柄ヲ有スル扁平ニシテ葉狀ナル披針狀ノ體ヨリ成リ,其兩面ハ中央部ニ於テ小細胞ヨリ成レル一層ノ精子細胞ヲ以テ蔽ハル。胎原列ハ小ニシテ,常ニ一個ヅ、葉ノ上縁ノ基部ニ於テ形成セラル。囊果ハ大ニシテ殆ド球狀ヲナシ,果皮ハ薄シ。孢子ハ可ナリ大ニシテ棍棒狀ナリ。

模範トスベキ種ハ下ニ記スモノナレドモ,不充分ニ知ラレタル他ノ二,三種アリテ,印度洋ノ暖部ニ在レドモ恐ラクハ之ト格別異ナラザルモノニハアラズヤト思ハル——屬ノ名ハ佛國ノ植物學者 H. J. Léveillé 氏ノ名ニ基ケリ。

Leveillea jungermannioides (Mart. et Hering) Harv.

じやばらのり 岡村 稱

第 XCII 圖版.

體ハ扁圓ナル匍匐莖ヲ以テ他體ニ附着シ,處々ヨリ圓キ

吸盤狀ノ根ヲ體ノ裏面ヨリ出シテ以テ固着ス。匍匐莖ノ頂端ハ遊離シテ伸長シ、輕ク分岐シ、枝ノ全部左右兩縁ヨリ葉狀ノ羽枝ヲ互生ス、羽枝ノ長サハ $\frac{1}{2}$ 乃至約1 mm.ニシテ其幅ハ少シク短シ。羽枝ハ潤キ卵圓形或ハ稍圓ク時ニ長橢圓形ニシテ、縁邊ニ於テ僅ニ重疊シ、少シク斜ニ枝ノ背面ニ附着シ、頂端微ニ凹ミ又ハ鈍圓ナリ；頂端ヨリハ其幼時ニ當リテ、1-2個ノ細胞ヨリ成レル毛又ハ時ニ叢狀ヲナセル絲狀ノ毛ノ存スルモノアリテ早ク脱落スト云フ；予ハ未ダ之アルヲ見ズ。葉ノ上面ノ中央ニハ一列ノ細胞ヨリ成レル細キ中肋アリテ其兩半ハ均齊ナラズ、而シテ葉面ハ稍六角形ヲナセル長キ細胞横ニ少シク灣形ヲ畫キテ並列セルモノヨリ成ル；葉ハ枝ノ上面ヨリ殆ド水平ノ位置ヲ取リテ開出スト雖モ、枝ノ幼部ナル枝端ニ於テハ未ダ開展セザル葉ハ皆直立シ、其表面ヲ以テ相對立ス；此性質(葉ノ位置枝ノ上面即チ背面ヨリ出ルコト)ニヨリテ體ハ腹背ノ性質アルヲ示ス；枝端ハ羊齒ノ歟莖ノ如ク堅ク螺旋狀ニ背面ノ方ニ卷ク。枝ハ內生的ニ發シ、葉狀ノ羽枝ト枝軸トノ腋ヨリ出ヅ。果實ハ今之ヲ詳ニセズ。色ハ鮮紅色ナリ。質軟クシテ膜質ナリ；乾燥スルトキハ紙ニ附着スルコト充分ナラズ。

產地：ほんだわら類ノ體上ニ附着ス。琉球、日向、紀伊、相模、安房、上總、能登。

分布：他ノ大ナル海藻上ニ附着ス。紅海、印度洋、オーストラリア。

第XCII圖版。じやばらのり、*Leveillea jungermannioides* (Mart. et Hering) Harv. ノ自然ノ狀態、 $\frac{1}{1}$ ；小ナル二片ハ乾燥品ナリ、 $\frac{1}{1}$ 。—2：枝ヲ少シク横ヨリ見タルモノ、 $\frac{12}{1}$ 。—3：枝ヲ上面ヨリ見タルモノ、 $\frac{33}{1}$ 。—4：葉即チ短條ヲ裏面ヨリ見タルモノ、 $\frac{91}{1}$ 。—5：葉ヲ表面ヨリ見タルモノ； α, α 、中肋； $\frac{91}{1}$ 。—6：葉腋ヨリ內生的ニ起リタル枝

ノ芽, $\frac{91}{1}$.—7: 葉ノ附着部及内生的ニ起リタル二個ノ幼キ葉 a , a , $\frac{91}{1}$.—8: 葉片ノ頂部ニシテ毛ノ既ニ落チタルモノ, $\frac{390}{1}$.—9: 吸盤狀根ヲ側面ヨリ見タルモノ, $\frac{175}{1}$.—10: 枝ト葉トノ横斷面; m , 葉ノ中肋, $\frac{91}{1}$.

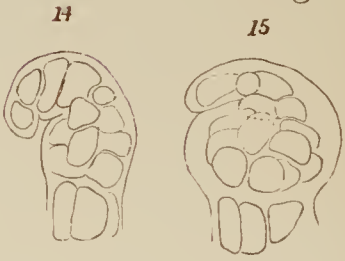
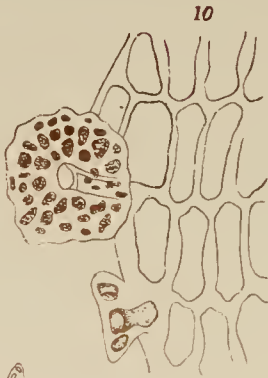
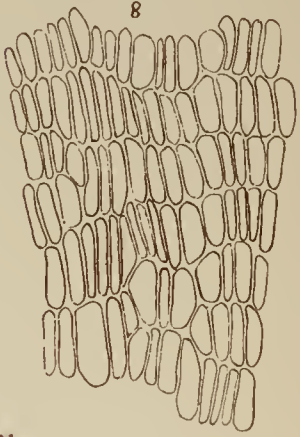
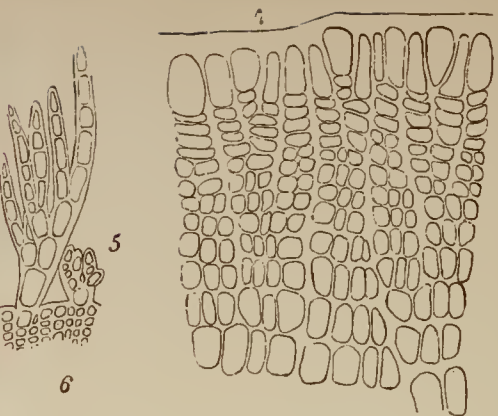
***Symphyclocladia marchantioides* (Harv.) Fkbg.**

Nom. Jap.: *Kozané-mo*.

PL. XCIII.

Symphyclocladia marchantioides (Harv.) Falkenb. Rhodomelaceen 1901, p. 277, t. 2, f. 18-23; t. 4, f. 20-24; De Toni Syll. Alg. IV, p. 989; Okam. Alg. Jap. Exsic. Fasc. II, No. 72; 岡村日本藻類名彙 p. 64.—*Placophora marchantioides* J. Ag. Till Alg. Syst. VII, p. 111.—*Placophora latiuscula* Okam. in De Toni Sopra tre nuove Alghe Giapp. 1895, p. 340; Id. Phyc. Jap. Nov. p. 33, Tab. I, f. 1-16.

Frond thin and flat, more or less broadly membranaceous, tapering at the base into the decumbent stem-like portion which adheres to the substratum by emitting roots from the under-surface. It is erect for the most part, but has a tendency to put out roots from any place where it comes in contact with the substratum. When young it is repent, oblong or obovate, leaf-like and slightly crenulated at margins; but when old, more usually it becomes more or less irregularly lobed or branched in pinnate manner with roundish-cuneate or tooth-like marginal lobes. Branches are set irregularly, often expanding here and there into broader segments, with the breadth of 1.5-8 mm. and the plant attains the height of some 8-10 cm. In the fully grown frond the most parts appear as if midribbed by the gradual cortication from the basal portion upwards. In younger lobes cells



Symphyocladia marchantioides (Harv.) Fkbg.

are more rectangular being disposed in subconcentric zones and longitudinally arranged in a flabellate manner. The longitudinal flabellate rows of cells seem to be alternate in their arrangement, the lateral new series being derived from an oblique partition of the median series as it appears from the growing margin. Thus a new series alternates with the next older ones on the opposite side and so on, and the median series grows centrifugally.

Tetrasporic sori are produced in marginal fasciculated laciniae with the spores disposed in a single longitudinal row and several rows are arranged somewhat flabellately in a common expansion. Each series sometimes shows a tendency to separate from the other to form its own erect or slightly curved polysiphonous stichidium, as it is understood from the upper free portion. *Antheridia* are transformed from often fasciculated hair like processes arising on the sides of the upper portion of the frond which are constructed at the beginning of a single longitudinal row of cells, but they become afterward lanceolato-oblong with very minute colorless globules very densely disposed around the axis. A single basal cell forms the pedicel-cell of an antheridium. *Procarps* are produced on a slender hair-like process standing on the side of upper branches. *Cystocarps* roundish-ovate, sessile, furnished with a terminal pore. *Pericarp* formed of longitudinal rows of cells running from the base to the carpostome. Spores obconic or clavate. *Colour* somewhat vinoso-red or brownish, turning to darkish in drying. *Substance* soft membranaceous, and the plant does not adhere to paper in drying.

Hab. : Taiwan (Warb.) ; Provs. Iyo, Kii, Totomi, Sagami, Awa, Kadzusa, Hitachi, Iwaki, Hoki, Idzumo, Noto ; Amakusa isl.

PL. XCIII. Fig. 1-2 : two fronds of *Symphyocladia marchantoides* (Harv.) Fkbg. in nat. size.—Fig. 3 : young frond slightly

magnified.—Fig. 4: young fronds repenting on another alga, $\frac{1}{1}$.—Fig. 5: “Haarblättern” growing from the margin, $\frac{140}{1}$.—Fig. 6: terminal portion of a branch, $\frac{91}{1}$.—Fig. 7: growing margin of a young frond, $\frac{930}{1}$.—Fig. 8: surface view of a portion of the frond magd.—Fig. 9: portion of a branch viewed from the under-surface to show root-fibres emitted, a little magd.—Fig. 10: radical discs, $\frac{240}{1}$.—Fig. 11: cross-section of the frond, $\frac{85}{1}$.—Fig. 12: lacinae with tetrasporic sori, $\frac{50}{1}$.—Fig. 13: antheridia in various stages of the growth, $\frac{240}{1}$.—Fig. 14-15: two young procarys; 14: $\frac{930}{1}$; 15: $\frac{530}{1}$.—Fig. 16: upper branch bearing young cystocarps, $\frac{91}{1}$.—Fig. 17: fully-grown cystocarp, $\frac{85}{1}$.

Symphyclocladia Falkenberg 1897.

こ さ ね も 属.

POLYSIPHONIEAE (RHODOMELACEAE).

ふちまつも科, いとぐさ亞科.

體ハ他物ニ固着シテ平臥セル基部ヨリ多少直立シ、「バンド」状ニ扁平ニシテ、幅ハ處々同ジカラズ、縁邊ハ齒狀ヲナシ又ハ裂片ヲ有シ扇狀ニ走レル脈ヲ存シ、數條ノ枝其相隣レル縁邊ヲ以テ癒着シテ濶キ枝トナレルモノヨリ成ル;此故ニ總テノ枝ノ成長點細胞ハ體ノ裂片ノ成長端ニ並列ス。成長ノ停止シタル頂端及ビ之ガ爲ニ枝ノ癒着ヲ廢止シタル部分ヨリハ時ニ單細胞列ヨリ成レル毛狀葉ヲ發生スルコトアリ。各條ハ6-8個ノ周心細胞ヲ有シ、常ニ皮層ヲ被ムラズ、(但シ我標本ニハ下部ニ皮層アリ)。——四分孢子囊ハ體ノ最上部ニ於テ各枝ニ相當スル部分ニ一列ニ生ジ、扇狀ニ散開セル縦列ヲナス;孢子囊ハ各關節ニ一個ヅ、形成セラレ、僅カニ隆起シ三個ノ同長ナラザル蓋細胞ヲ以テ蔽ハル;其孢子ヲ有スル各條ノ上端ハ多

少游離ス。精子器ハ體ノ上部ノ枝ノ兩緣ヨリ往々叢生セル毛ノ如キ小枝ヨリ變成シ、始メハ一列ノ細胞ヨリ成レドモ、後長橢圓狀ヲナシ、單細胞ノ柄ヲ有ス。胎心細胞ハ上部ノ枝ノ兩緣ヨリ生ズル細キ毛狀ノ枝ニ生ズ。囊果ハ無柄ニシテ卵圓形ヲナシ廣キ果孔ヲ有ス。

三種アリ皆本邦ニ産ス。下ニ掲グルモノハ模範種ニシテ初メ「ニウジーランド」ニ知ラレタリ、他ノ二種ハ本邦ニノミ知ラル。——屬ノ名ハ symphyes (相結合ス) ト cladus (枝) トヨリ成ル; 即チ體ノ構造ニヨレリ。

Symphyocladia marchantioides (Harv.) Falkenb.

こ ざ ね も 岡 村 稱

第 XCH 圖版

體ハ扁平ニシテ薄ク、多少潤キ膜狀ヲナシ、下部ハ細クナリテ平傾セル莖ノ如キ部分トナリ、裏面ヨリ根ヲ出シテ他物ニ附着ス。體ハ大部分直立スレドモ他物ト接觸スル部分ヨリハ其處ヲ擇バズシテ根ヲ出ス傾向ヲ有ス。其幼稚ナルトキニ當リテハ體ハ全部匍匐シ、長橢圓形又ハ倒卵圓形ニシテ葉狀ヲナシ、緣邊少シク缺刻ス、然レドモ其漸ク長ズルニ到レバ通常多少不規則ニ分裂シ、或ハ羽狀ニ分枝シ、裂片圓形—楔形又ハ齒狀ヲナス。枝ハ不規則ニ排列シ、往々其處此處ニ潤キ部分ヲ作り、幅 1.5-8 mm. ニ至リ、體ノ高サ約 8-10 cm. ニ達ス。充分成長シル體ニアリテハ體ノ過半部ハ宛モ中肋ヲ存スルガ如ク見ユ、蓋シ其部ニ沿フテ下部ヨリ漸次上方ニ皮層細胞ヲ生ズルヲ以テナリ。幼キ枝ニ在リテハ細胞ハ更ニ長方形ニシテ縦ニ扇狀ニ列シ、横ニ重圈狀ニ排列ス; 其縦ニ扇狀ニ連ナレル排列ハ其形成ノ初期ヲ見ルトキハ、明ニ互生ナルコトヲ知ル

ニ難カラズ;即チ中央ノ一列ノ細胞ヨリ斜ニ分裂シタルモノ其左右ノ列ヲナスヲ以テナリ;此故ニ中央ノ一列最モ古クシテ左右ノモノ之ニ亞グモノトス;斯クテ中央ノ列ハ先進分裂ス—四分胞子囊群ハ體ノ兩縁ヨリ稍叢狀ニ生ズル齒狀裂片ニ形成セラレ,胞子ハ一縦列ニ連ナリ,數列相隣リシテ稍扇狀ニ列ス. 各列ハ時ニ他ノ相隣接スル列ヨリ離レントスルノ傾向ヲ有シ,以テ自己自身ノ多管軸ノ「スティキジア」ヲ形成セントスルモノ、如ク,其「スティキジア」ハ眞直ナルアリ,或ハ少シク屈曲スルコトアリ. 斯ノ如キ形狀ヲナセルハ四分胞子群アル部分ノ先端少シク游離スルモノアルヲ以テ之ヲ知ルニ難カラズトス. 精子器ハ體ノ上部ノ兩縁ヨリ生ズル毛ノ如キ枝ヨリ變成セラレ,其枝ハ往々叢生シ,初メ一列ノ細胞ヨリ成レドモ,後披針狀—長楕圓狀體トナリ,軸ノ周圍ニ極メテ密ニ小サキ無色ノ精子細胞ヲ生ズ;斯クテ精子器ノ基部ハ一個ノ細胞ヨリ成リ,此細胞該器ノ柄トナルナリ. 胎原列ハ上部ノ枝ノ縁邊ヨリ生ズル細キ毛ノ如キ枝ニ生ズ. 囊果ハ卵圓形ニシテ,柄ナク,頂端ニ果孔ヲ開ク;果皮ハ基部ヨリ果孔ニ向テ縱走セル數縦列ノ細胞ヲ以テ成リ,胞子ハ棍棒狀ナリ. 色ハ稍葡萄酒色又ハ褐色ニシテ乾燥スルトキハ稍黑褐色トナル. 質ハ薄ク柔キ膜質ニシテ,乾燥スルトキハ紙ニ附着セズ.

產地: 臺灣 (Warb.); 伊豫, 紀伊, 遠江, 相模, 安房, 上總, 常陸, 磐城, 伯耆, 出雲, 能登; 天草島 二江.

分布: 岩石上ニ生ズ,「ニウジーランド」; オーストラリアノ北部.

第XCIII圖版. 1-2: こざねも, *Symphycladia marchantioides* (Harv.) Falkenb. ノ二個體, 自然大, —3: 幼キモノ, 廓大, —4: 他ノ藻體上ニ匍匐セル幼キ植物, $\frac{1}{1}$. —5: 體ノ縁邊ヨリ生ズル毛狀葉, $\frac{140}{1}$. —6: 枝ノ上部, $\frac{91}{1}$. —7: 幼キ體ノ成長縁, $\frac{930}{1}$. —8: 體ノ表面ノ





13 71 8 15 19 14 6 2 10 16 3 12 4 18 9 5 11 17

Gloiopeltis cervicornis Suring. はちふのり.

一部廓大,—9:體ノ一部ヲ其下面ヨリ見テ根ノ出ル狀ヲ示ス,廓大;
 —10:吸盤狀根, $\frac{2.40}{1}$.—11:體ノ横斷面, $\frac{8.5}{1}$.—12:四分胞子囊ヲ有ス
 ル小裂片, $\frac{5.0}{1}$.—13:精子器ノ種々ノ狀態, $\frac{2.40}{1}$.—14-15:二個ノ幼キ
 胎心細胞列; 14: $\frac{2.30}{1}$; 15: $\frac{5.30}{1}$.—16:幼キ囊果ヲ有スル上部ノ枝,
 $\frac{9.1}{1}$.—17:充分成長シタル囊果, $\frac{8.5}{1}$.

Gloiopeltis cervicornis (Sur.) Schm.

Nom. Jap.: *Hana-funori*.

PL. XCIV.

Fronde dwarf, dendritic, caespitose rising from a callus disc, subcylindrical or compressed, tapering toward the base into a short stipe, subtubulose, densely branched in a manner between dichotomous and pinnate, 1.5-4 cm. high, 1-1.5 mm. broad. All the branches reach on the same height, standing erecto-patent with roundish axils, densely branched in the upper portion in dichotomo-pinnate manner and with irregular ramuli issued from all the sides of branches; ultimate ramuli are often pectinate and apices of branches are all acute. Frond has a percurrent siphonous axis which is slightly flexuous, and near the articulation lateral branches are emitted which pass gradually to the short moniliform cortical filaments by repeatedly dividing in di-trichotomous manner. The central axis is densely surrounded by abundant rhizoidal filaments which arise from infracortical cells as well as from the branches of the axis and run in various directions by repeated ramifications. Simple celled deciduous hairs are often carried on cortical cells. *Tetrasporangia* densely scattered over upper branches. *Antheridia* are transformed from upper ramuli; antherozoids

are formed from the cortical cells of the antheridial portion. (I have found antherozoides formed in the same frond bearing procarps. I do not know whether the case is normal or not). *Procarps* are abundantly formed and are glomerated with an auxiliary cell and sterile filaments. The glomerated mass is carried on a short articulated branch which arises as a lateral branch of the basal cell of cortical dichotomous moniliform filaments. There is a little larger cell terminating the articulated pedicel of the glomerated mass ; this cell seems to serve as the auxiliary cell (*d.* of fig. 17 and 18). From the auxiliary cell many sterile filaments arise and as the branch of the auxiliary cell or of the sterile filaments slightly curved procarpial branches are produced which are composed of 3 or 4 cells. *Cystocarps* abundantly produced in the upper branches immersed in the substance of the frond and slightly swollen out ; nucleus a little lobed and supported on a stalk-like cell. *Colour* brownish red changing to blackish in drying. *Substance* soft-cartilaginous and the plant imperfectly adheres to paper in drying.

Hab.: On rocks above and near high tide. Nagasaki, Goto, Provs. Tosa, Sagami, Boshyu and Iwaki.

PL. XCIV. Fig. 1. frond of *Gloiopeltis cervicornis* (Sur.) Schm. in nat. state and size.—Fig. 2 : two fronds, $\frac{1}{1}$.—Fig. 3 : simpler forms from Shikine Isl. (Idzu) detached, $\frac{1}{1}$.—Fig. 4 : portion of frond showing holdfasts formed near upper portion of a branch, $\frac{5}{1}$.—Fig. 5 : portion of a frond showing pectinately arranged ramuli, $\frac{5}{1}$.—Fig. 6 : cross-section of the lower portion of the frond, $\frac{5.4}{1}$.—Fig. 7 : longitudinal section of younger part of frond, $\frac{5.4}{1}$.—Fig. 8 : half of the longitudinal section of the lower portion of frond, $\frac{17.5}{1}$.—Fig. 9 : growing apex of a branch, $\frac{39.0}{1}$.—Fig. 10 : tetrasporangia and deciduous trichomes, $\frac{39.0}{1}$.—Fig. 11 : portion of antheridia, $\frac{39.0}{1}$.—Fig. 12 : branch bearing cystocarps, $\frac{5}{1}$.—Fig. 13 : cystocarps, $\frac{1.5}{1}$.—Fig. 14 : younger

stage of procarpial branches; *a*, auxiliary cell; *ab*, *ac*, differentiate either to sterile filaments or procarpial branch, $\frac{600}{1}$.—Fig. 15: one fully formed procarpial branch and filaments, from which many other procarps and sterile filaments will be formed; *a*, auxiliary cell, $\frac{600}{1}$.—Fig. 16: procarps and sterile filaments, $\frac{930}{1}$ (Shirahama, Prov. Boshu; May, 1909).—Fig. 17: procarps and sterile filaments *s t*, cell supporting them, $\frac{600}{1}$ (March, 25, 1909, Tateyama, Awa); *a-s* same as fig. 18.—Fig. 18: diagrammatic figure illustrating sterile filaments and procarpial branches of the fig. 17; *I-II'*, four procarpial branches; *a-c*, *e-h*, *k*, *l-n*, *q-s*, *o-p*, sterile filaments; *d*, auxiliary cell.—Fig. 19: cross-section of cystocarp, $\frac{91}{1}$.

Correction:

[PL. XCIV. For *Gloiopeltis cervicornis* Suring. must be put *Gloiopeltis cervicornis* (Suring.) Schm.]

Gloiopeltis J. Agardh 1842.

ふ の り 属.

GLOIOSIPHONIACEAE. ふ の り 科.

體ハ圓柱狀又ハ僅ニ扁ク、多少密ニ叉狀ニ分レ或ハ不規則ニ分岐シ、内部ノ組織ハ弛緩シ或ハ中空ナリ。中軸ハ長キ細胞ヨリ成リ、眞直ニ或ハ左右ニ屈折シ時ニ根様絲狀細胞ヲ以テ多少密ニ圍繞セラレ、中軸ヨリ枝ヲ互生シテ此枝外方ニ甚ダ密ニ分岐シ以テ皮部ヲ形成ス；其外方ニ近ヅクニ從ヒ、念珠狀ニ連ナレル小細胞列ヨリ成リテ又狀ニ分岐シ、體ノ表面ニ直角ヲナシテ密ニ相集リ以テ皮層ヲナス。皮下層ハ緩ク組合シ、時トシテハ根様細胞ノ錯綜スルモノアリテ、中軸ヨリ多少遠ク距リ、或ハ根様細胞組織ヲ以テ之ト結合ス。成長點細胞ハ交互ニ斜ニ關節ス。細胞間物質ハ水ヲ含ミテ粘化スルコ

ト著シ。——四分孢子囊ハ十字様ニ分裂シ、散在ス。胎原細胞ハ小枝ノ團集セル小塊狀ヲナシテ皮下層ニ散在シ、一條ノ鈎ノ如ク屈曲セル助細胞列ヨリ多數ノ胎原細胞列ヲ其側面ニ枝ノ如ク出シ、別ニ多數ノ中性ノ側枝アリテ此等相團集シテ以テ成ル；助細胞ハ助細胞列ノ内ノ一個ノ細胞ヲ以テ成ル。囊果ハ皮下層ニ散在シ、一條ノ短キ小柄ノ上ニ仁ヲ着ケ其部ノ皮層ハ多少著シク外方ニ膨起ス；仁ハ球狀一腎臟形ニシテ固ク密集シ、小仁ニ分ル、コトナシ。四分孢子ヲ有スル體ノ皮下層ノ外方ノ所ニ殆ド球狀ニ團集セル又ハ不明ニ數塊ヲナセル「バラスボール」ヨリ成レル果實四分孢子ト同ジク無性生殖ニ依テ成レル孢子ニシテ分裂ノ數ノ一定セザルモノヲ存スルコト往々之アリテ偶々囊果ト混ズルコトアリ。

約6種アリテ太平洋ノ北部ニ産シ一部ハ未ダ充分研究セラレザルモノニ屬ス；模範種ハマふのり、*Gloiopeltis tenax* (Turner) J. Ag. ニシテ本邦及支那附近ニ産ス；本邦ニハ下記ノ種ノ外尙ホ二種アリ。——屬ノ名ハ *Gloios* (粘質) ト *pelte* (圓キ楯) トヨリ成ル、

Gloiopeltis cervicornis (Sur.) Schm.

は な ふ の り。

第 XCIV 圖版.

體ハ矮小ニシテ樹狀ヲナシ、小吸盤狀根ヲ以テ叢生シ、稍圓柱狀又ハ扁圓、扁壓、基部ノ方ニ細クナリテ短キ莖ヲナシ、稍中空ニシテ、密ニ叉狀ト羽狀トノ混在ニテ分枝ス。高サ 1.5-4 cm., 幅 1-15 mm. アリ。枝ハ總テ同一ノ高サニ達シ、直立ノ如ク又廣開シ、腋圓ク、密ニ上方ニ叉狀様羽狀ニ分岐シ、又別ニ枝ノ各方面ニ不規則ニ小枝ヲ出ス。最末位ノ小枝ハ往々櫛齒ヲ植エタルガ如ク、枝ノ先端ハ皆尖銳ナリ。體ハ一條ノ中軸ヲ有シ、

中軸ハ少シク左右ニ屈曲シ、其節ニ近ク側枝ヲ發ス、側枝ハ屢々2-3回叉狀ニ分岐シテ短キ念珠狀ノ皮層ヲナス。中軸ノ周圍ニハ澤山ノ根様絲アリテ、屢分岐シテ各方面ニ走リ殆ド體ノ空所ヲ充タス；根様枝ハ皮下層ノ細胞並ニ中軸ヨリスル枝ヨリ生ズ。單一ノ細胞ヨリ成レル早落性ノ毛ハ往々表皮細胞ヨリ生ズ。——四分胞子囊ハ上部ノ枝ニ密ニ散在ス。精子器ハ上部ノ小枝ヨリ變成シ、其部ノ皮層細胞ヨリ精子細胞ヲ形成ス。（予ハ胎心細胞ヲ有スル體ノ上部ノ枝ニ精子器ヲ生ジタルヲ見タリ；是レ果シテ常態ナルカ否カヲ詳ニセズ。）胎原列ハ多數ニ形成セラレー個ノ助細胞及中性ノ絲ト共ニ團集ス。此團塊ハ短キ關節セル枝ノ上ニ支ヘラレ、其枝ハ皮層ノ念珠狀絲ノ基部細胞ノ側面ニ生ズ。此團塊ノ柄トナレル關節枝ノ頂端ニ在ル稍大ナル一個ノ細胞ハ助細胞トナルモノ、如ク（第17-18圖の），此細胞ヨリ數條ノ中性絲ヲ生ジ、其中性絲ノ枝トシテ或ハ助細胞ノ枝トシテ胎原列ヲ生ズ。胎原列ハ3-4個ノ細胞ヨリ成リ少シク屈曲ス。囊果ハ上部ノ枝ニ多數ニ形成セラレ、體ノ内部ニ埋リ、外部ニ少シク膨出ス。仁ハ少シク分裂シ、仁柄細胞ノ如キモノ、上ニ支ヘラル。色ハ暗紅褐色ニシテ、乾燥スルトキハ稍黑色トナル。質ハ軟カキ軟骨質ニシテ乾燥スルトキハ紙ニ附着スルコト充分ナラズ。

產地：高潮線附近ノ岩上ニ生ジ、往々高潮線以上ニ在リ。琉球、長崎、五島有川、土佐、相模、安房、磐城。

用途：本種ハ之ヲ晒白シ抄製シテ布糊トナセドモ體形小ナルヲ以テ此ノミニテハボロボロトシテ能ク撃グベカラズ、故ニ他ノふくろふのり、まふのり又ハおごのりノ如ク長大ノモノニ混ジテ用ヰル。九洲地方ニテハ此ノ種ヲどんごふのりト云フ、どんごハ襤褸ノ義ナラン。本種ハ布糊トシテ品質良好ナラズトス。

第XCIV圖版： はなふのり, *Gloiopeltis cerviconis* (Sur.) Schm.
 ノ自然ノ状態, $\frac{1}{1}$ —2: 二個體ヲ離シタルモノ, $\frac{1}{1}$ —3: 式根島ヨリ
 得タル簡單ナル形セルモノ, $\frac{1}{1}$ —4: 枝ノ上部ニ近ク附着器ヲ
 形成セルモノ, $\frac{5}{1}$ —5: 櫛齒狀ニ小枝ヲ生ジタルモノ, $\frac{5}{1}$ —6: 體ノ
 下部ノ横斷面, $\frac{5}{1}$ —7: 體ノ幼部ノ縦斷面, $\frac{5}{1}$ —8: 體ノ下部ノ縦
 斷面ノ半分, $\frac{175}{1}$ —9: 枝ノ成長點, $\frac{390}{1}$ —10: 四分胞子嚢及早落性
 ノ毛, $\frac{390}{1}$ —11: 精子器ノ一部, $\frac{390}{1}$ —12: 嚢果ヲ有スル枝, $\frac{5}{1}$ —13: 嚢
 果, $\frac{15}{1}$ —14: 胎原列ノ幼キモノ; *a*, 助細胞; *ab, ac* ノ孰レカハ中性ノ
 枝トナリ孰レカハ胎原列トナルモノ, $\frac{600}{1}$ —15: 充分ニ形成セ
 ラレタル一個ノ胎原列ト未ダ他ノ胎原列若クハ中性枝ニ分
 化セザルモノ; *a*, 助細胞, $\frac{600}{1}$ —16: 胎原列及中性枝, $\frac{930}{1}$; (安房白
 濱, 明治四十二年五月)—17: 胎原列及中性枝; *st*, 此等ノモノヲ
 支持セル細胞, $\frac{600}{1}$. (同年三月二十五日安房館山) *a-s* ハ第18圖ニ
 同ジ—18: 第17圖ノ中性枝及胎原枝ヲ示ス爲メノ圖式; I-IV, 4
 個ノ胎原枝; *a-c, e-h, e-k, l-n, q-s, o-p*, 中性枝; *d*, 助細胞—19: 嚢果ノ
 横斷面, $\frac{91}{1}$.

正 誤.

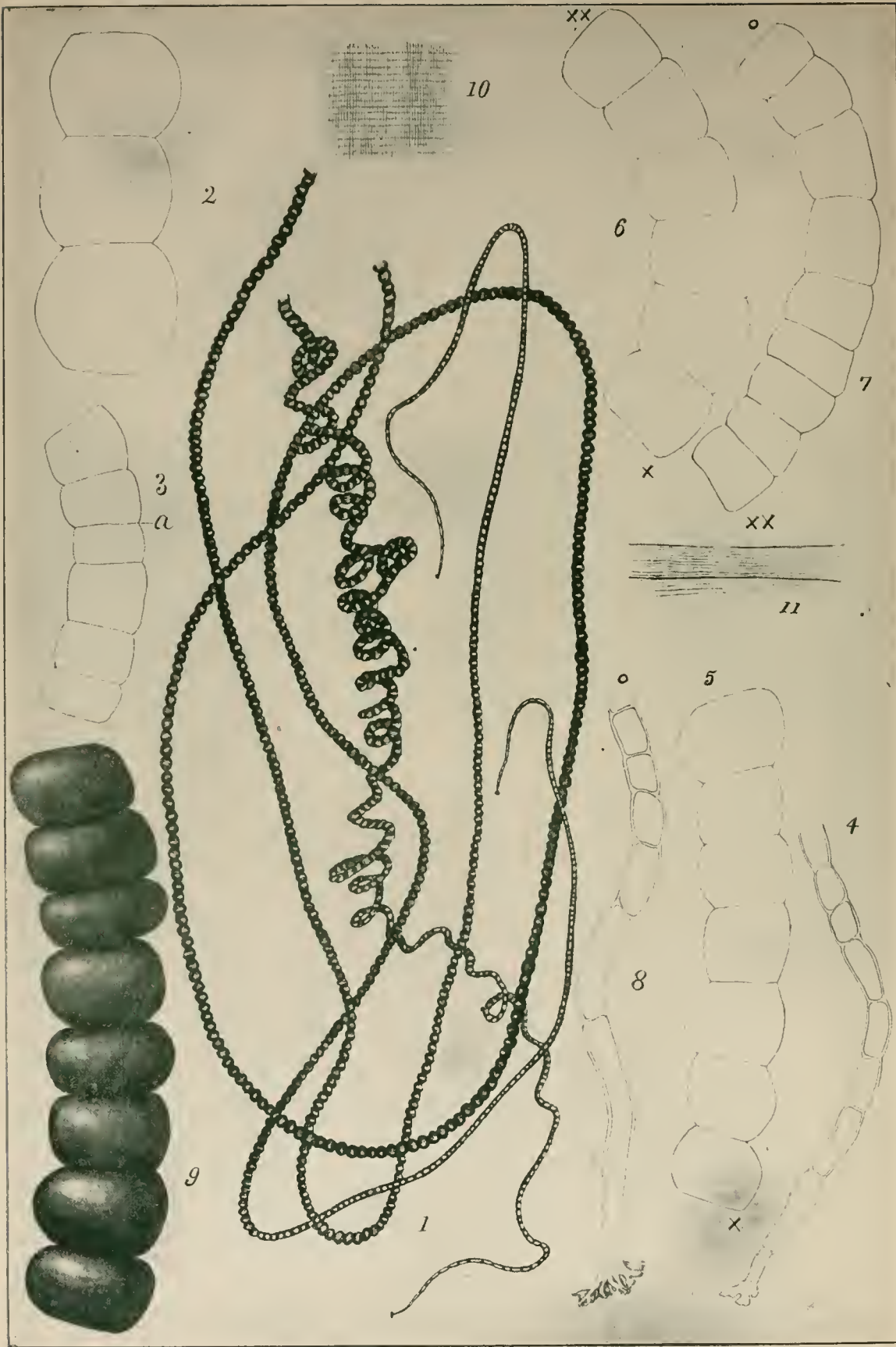
[第XCIV圖版 *Gloiopeltis cervicornis* Suring. ハ *G. cervicornis*
 (Suring.) Schm. ノ誤.]

***Chaetomorpha spiralis* Okam.**

Nom. Jap.: *Futo-Juzumo*.

PL. XCV.

Chaetomorpha spiralis Okam. Alg. Jap. Exsic. No. 94; Id. con-
 tents of the Alg. Jap. Exsic. Fasc. II (Bot. Mag. Tokyo, Vol. XVII,
 1903) No. 94.



Chaetomorpha spiralis Okam.

ふさじゆすも

Filaments very rigid, deep green, attached to the substratum at the beginning, soon detached from the base on coming in contact with other algae which they closely twist round, also entangled and entwined to each other in spiral manner. Lower articulations sub-cylindrical or more or less constricted and ventricose, about $300\ \mu$ thick in the basal cell, soon attaining $600-750\ \mu$ in diameter above, with articulations subaequal to the breadth, becoming gradually thicker upward with compressed-globular or almost globular articulations which attain $1.7-2-2.5\ \text{mm.}$ in diameter and are shorter as they are broad; surface of cells finely striated longitudinally and transversely; thickness of cell walls mostly $10-20\ \mu$, thicker below as $54\ \mu$.

Hab.: On various algae in mid-tide; Nemoto (Bōshyu), Prov. Kadzusa, Nii-jima (Prov. Idzu), Chōshi (Prov. Shimosa), Prov. Iwaki, Prov. Rikuzen.

PL. XCV. Fig. 1: 3 fronds of *Chaetomorpha spiralis* Okam. in nat. size, slightly magd.—Fig. 2: upper fully grown articulations, slightly magd.; the lowest cell $1.7\ \text{mm.}$ in diam.—Fig. 3: lower and median portion of the same frond as fig. 2; a newly formed wall, slightly magd.—Fig. 4: lower and basal portion of the same frond as fig. 2 and 3, slightly magd.—Fig. 5-8: various portions of the one and same frond, which are connected at the points with the corresponding marks \times , $\times\times$, o , but with intervening cells omitted, slightly magd.; Fig. 5: upper portion, $1-1.5\ \text{mm.}$ thick; Fig. 6: middle portion; Fig. 8: the lowest basal cell $3\ \text{mm.}$ long and $270\ \mu$ in diameter; the 3rd cell from the base, $360\ \mu$ in diam.—Fig. 9: fully formed upper articulations of frond, $\frac{1}{1}^2$.—Fig. 10: surface view of the cell showing striations, $\frac{600}{1}$.—Fig. 11: cross-section of cell-wall; the upper surface indicates the outer side, the lower, the inner $\frac{600}{1}$.

Chaetomorpha Kützting 1845.

じ ゆ す も 屬.

CLADOPHORACEAE. しほぐさ科

體ハ一列ニ連ナリテ分岐セザル細胞列ノ絲ヨリ成リ、細胞ハ概テ短クシテ、基部ノ細胞ヲ除クノ外他ハ皆分裂シ得ルモノナリ；絲ハ常ニ或ハ只幼時ノミー一個ノ長キ基部細胞ヲ以テ他物ニ固着シ、此細胞ハ下方ニ分岐セル吸盤狀突起ヲ出シテ附着ス、其部ハ、然レドモ、基部細胞ト隔膜ヲ以テ分タル、コトナシ。 健成根ハ之ヲ存スルコトナシ。 多數ノ色素體ハ一層ノ板狀體ヨリ成リテ處々ニ孔ノ如ク貫通セラレ時トシテハ小サキ圓盤狀ニ分タル、コトアリテ多數ノ「ビレノイド」ヲ含ム。 受胎作用ハ知ラレズ。 游走子ハ一個ノ紅色ノ眼點ヲ欠ク。「アキネート」胞子又ハ「アブラノ」胞子ハ之アルヲ知ラズ。

淡水、汽水及鹹水ヲ問ハズ世界ノ各部ニ在リテ南北兩氷洋ヨリ赤道ニ至ル迄之アリ。 從來知ラレタルモノハ約50種アレドモ、其中何種ノモノヲ以テ正シキ種トナスベキカハ詳ナラズ。 C. Linum (Fl. Dan.) Kütz. ハ極メテ廣ク分布セル種類ニシテ本邦亦此屬ノモノ數種アレドモ今其悉クヲ詳ニセズ。——屬ノ名ハ chaete (硬毛) ト morphe (形狀) トヨリ成ル、即チ質ノ形質ニ因レルナリ。

Chaetomorpha spiralis Okam.

ふとじゆすも 岡村稱.

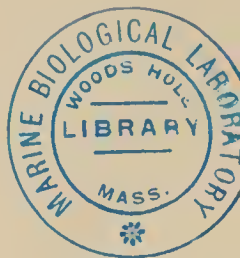
第 XCV 圖版.

絲狀ノ體ハ甚ダ硬ク、色ハ深綠色ニシテ、始メハ岩石ニ附着スレドモ後其上部ヲ以テ他ノ藻類ニ卷絡スルニ至レバ根ヨ

リ離レテ固ク他ノ海藻ニ纏絡シ又相互ニ錯綜シテ螺旋狀ニ緊縮ス。下部ノ關節ハ稍圓柱狀或ハ多少クビレテ側面ニ膨出シ、基部ノ細胞ハ約 300μ 太ケレドモ上部ノ關節ハ直徑 $600-750\mu$ ニ達シ、漸次上方ニ大ニシテ球狀—扁圓又ハ殆ンド球狀ヲナシ直徑 $1.7-2-2.5\text{ mm.}$ ニ達スルモノアリテ其太キモノハ稍短シ。細胞膜ノ表面ハ縦ト横トニ細キ線ヲ有シ、細胞膜ノ厚ミハ多クハ $10-20\mu$ ナレドモ、下部ノモノハ厚クシテ 54μ ニ達スルモノアリ。

產地：潮線間ニ生ズル諸種ノ海藻ノ上ニ纏絡ス。房州根本、新島(伊豆)、銚子、磐城、松島、上總、安房。

第XCV圖版 1: 三個ノふとじゆすも, *Chaetomorpha spiralis* Okam., $\frac{1}{1}$.—2: 充分成長シタル上部ノ關節; 最下部ノ細胞ハ直徑 1.7 mm. アリ, 廓大.—3: 第2圖ト同一ノ標本ノ下部及中部; α , 新ニ分裂シタル細胞膜, 廓大.—4: 第2, 第3圖ト同一ノ標本ノ下部及基部, 廓大.—5-8: 同一體ノ諸部; $\times, \times\times, \circ$ 等ハ相連ル部分ヲ示ス合印ナレドモ其中間ハ之ヲ略セリ; 廓大; 5圖ハ上部ニシテ $1-1.5\text{ mm.}$ 太シ; 6圖ハ中央部; 8圖ハ基部ノ細胞ニシテ長サ 3 mm. 直徑 270μ アリ; 基部ヨリ三番目ノ細胞ハ直徑 360μ アリ.—9: 充分成長セル部分ノ關節, $\frac{1.2}{1}$.—10: 細胞ノ表面ノ線條痕, $\frac{600}{1}$.—11: 細胞膜ノ横斷面ニシテ上側ハ外面, 下側ハ内面ナリ, $\frac{600}{1}$.





K Okam del.

12 1 7 8 11 3 9 2 10 4 5 6

Symphyocladia linearis (Okam) Fkbg
ほそこぎねも

Symphyocladia linearis (Okam.) Falkenb.

Nom. Jap.: *Hoso-kosane-mo*.

PL. XCVI.

Symphyocladia linearis (Okam.) Falkenb. Rhodomelaceen p. 280 ; De Toni Syll. Alg. IV, p. 990 ; 岡村, 日本藻類名彙 p. 64.—*Placophora linearis* Okam. in De Toni Sopra tre nuove Alghe giapponesi (1895) p. 341 ; Id. Phyc. Jap. nov. p. 33, Tav. 2, f. 17-25.

Frond narrow-linear, ancipito-compressed or flat, decompound pinnate, distichous, 10-27 cm high, lower portion becoming almost cylindrical in older specimens by the gradual cortication of cells. The greater portion of frond is erect, except the short decumbent basal portion which adheres to substratum by emitting roots from the under surface. Rootfibres are emitted from any place where the plant comes in contact and even from the apices of branches ; and some of them form an expanded disc at their apices. Branches of every order linear, alternate, erect or erecto-patent, thin and soft, furnished with marginal alternate teeth, some of which grow up into ramuli. Most of marginal teeth taper from broader base, terminating with an apical cell ; while in somewhat broader ones the alternate arrangement of rows of growing cells in a common expansion is clearly observed.—*Tetrasporangia* are produced in upper marginal laciniae disposed in a single longitudinal row, and several series arranged near each other in a common expansion. *Procarp* is produced on the basal articulation of a fibrilla standing on the sides of upper branches near growing apex. *Cystocarps* roundish-ovate, sessile, furnished with a wide terminal pore. Pericarp formed of longitudinal rows of cells running from the base to carpostome.

PL. XCVI-C, Oct. 1912. The Vol. II is complete with this number.



Hab.: Probably on rocks below low tide. Prov. Bōshyu, Onahama (Prov. Iwaki), Ōtsu (Prov. Hitachi), Yonezaki (Prov. Rikuchyu), Kisami (Prov. Idzu), Anori (Prov. Shima). Fruits : spring—summer.

PL. XCVI. Fig. 1: frond of *Symphyocladia linearis* (Okam.) Falkenb., in nat. size.—Fig. 2: portion of the frond, $\frac{1}{1}$.—Fig. 3: upper portion of a branch bearing cystocarps, $\frac{12}{1}$.—Fig. 4: root-fibres produced from the undersurface of a branch, $\frac{16}{1}$.—Fig. 5: cross-section of the basal portion of frond, $\frac{16}{1}$.—Fig. 6: central portion of fig. 5 showing the original frond and cortical cells, $\frac{85}{1}$. —Fig. 7-8: cross-sections of the upper and a little lower portion of one and the same branch, magd.—Fig. 9: surface-view of a branch, to show the union of segments, $\frac{91}{1}$.—Fig. 10: apical portion of a branch bearing a very young procarp, a , $\frac{390}{1}$.—Fig. 11: branch bearing tetrasporangia, magd.—Fig. 12: cystocarp a little matured, $\frac{600}{1}$.

Symphyocladia linearis (Okam.) Falkenb.

ほそこざねも 岡村稱。

第XCVI圖版

體ハ纖細線狀ニシテ扁壓又ハ扁平、左右兩縁ヨリ複羽狀ニ分岐シ、10—27 cm 高ク、下部ハ漸次皮層細胞ヲ以テ蔽ハル、爲メ老成セル標品ニテハ殆ド圓柱狀ヲナス。體ノ大半部ハ直立スレドモ、基部ハ少許ノ間平臥シ、其裏面ヨリ毛狀根ヲ出シテ岩石ニ附着ス。根ハ體ノ何レノ場所ニテモ岩石等ニ附着スル際ニハ生ジ得ラル、モノニシテ、往々枝ノ頂部ヨリスルコトサヘアリ、而シテ其中或ハ頂端ニ吸盤狀體ヲ形成スルモノアリ。各部ノ枝ハ線狀、互生ニシテ直立或ハ直立廣開シ、薄ク、柔軟ニシテ縁邊ヨリ齒狀裂片ヲ互生ス；裂片ノ中或ハ枝トナルモノアリ。縁邊ヨリスル齒狀裂片ノ多數ハ廣キ基部ヨリ起リテ上部ハ細クナリ、一個ノ頂細胞ヲ戴ク；然レドモ稍濶キ



K. Okam. del.

8

2

6

1

7

3

4

9

5

Symphyocladia gracilis (Martens) Fkbg
いそむらさき

枝ニテハ各部ノ枝互ニ癒着シタル爲メ其各部ノ成長點細胞ノ互生スルコトハ明ニ之ヲ認ムルヲ得。——四分胞子嚢ハ上部ノ枝ノ縁邊ニ在ル裂片ニ形成セラレ、一縦列ヲナシ、數列互ニ接近シテ一面ニ列ス。胎原ハ上部ノ枝ノ成長點附近ヨリ生ズル毛狀葉ノ基部ノ細胞ニ形成セラル。嚢果ハ圓形—卵形ニシテ、柄ナク、大ナル果孔ヲ存ス。果皮ハ嚢果ノ基部ヨリ果孔ノ方ニ縱走セル細胞列ヨリ成ル。

產地：低朝線以下ノ岩石ニ附着スルナルベシ。伊豆吉佐美、房州、磐城小名濱、陸中米崎村、常陸大津、志摩安乘。果實：—春ヨリ夏。

第XCVI圖版. 1: ほそこざねも, *Symphyclocladia linearis* (Okam.) Falkenb. ノ體, $\frac{1}{1}$.—2: 體ノ一部, $\frac{1}{1}$.—3: 嚢果ヲ有スル枝ノ上部, $\frac{12}{1}$.—4: 枝ノ裏面ヨリ根ヲ生ジタル狀, $\frac{16}{1}$.—5: 體ノ基部ノ横斷面, $\frac{16}{1}$.—6: 第5圖ノ中心部ニシテ、原來ノ體ト皮層トヲ示ス, $\frac{85}{1}$.—7-8: 同一ノ枝ノ上部ト稍下部トノ横斷面、廓大.—9: 枝ヲ表面ヨリ觀タルモノニシテ各部癒合ノ狀ヲ示ス, $\frac{81}{1}$.—10: 極メテ幼キ胎原, a , ヲ有スル枝ノ成長部, $\frac{390}{1}$.—11: 四分胞子嚢ヲ有スル枝、廓大.—12: 稍熟シタル嚢果, $\frac{600}{1}$.

Symphyclocladia gracilis (Martens) Falkenberg.

Nom. Jap.: *Iso-murasaki*.

PL. XCVII.

Symphyclocladia gracilis (Mart.) Falkb. Rhodomelaceen, p. 282; De Toni Syll. Alg. Vol. IV, p. 990; 岡村, 日本藻類名彙 p. 64; —*Dictyomenia gracilis* Martens Preuss. Exped. n. Ost-Asien, Tange, p. 119, t. 7, f. 4.—*Rytiphloea complanata* var. *pusilla* Harv. Char. of New Alg. p. 329, n. 16.—*Rytiphloea angusta* (Harv.) Okam. Contr. to Knowl. Mar. Alg. Jap. II, (Bot. Mag. Tokyo. Vol. X, No. 110), p. 26, Pl. III, f. 8-13; La Nuova Not. 1897, p. 27.—

Symphyocladia angusta Okam. Algae Jap. Exsicc. No. 22 (日本海藻標品第一帙第二十二號).

*Fronde*s caespitosely rising from fibrous roots, narrow linear, 1-1.5 mm broad, attaining the height of 5-15 cm. They divide near the base giving rise to many main divisions, and are many times more or less irregularly pinnated in disticho alternate manner. Main divisions often appear somewhat dichotomous and pinnately branched assuming pyramidal outline in some specimens; or branches standing in patent axils reach an equal height, and the entire frond is somewhat flabellate in outline. Pinnæ are linear in outline, very patent, straight and not inrolled at apices, and taper to fine points; they are alternate, regularly pinnulated, and are here and there often very stunted and spinose, either pinnulated or naked, being especially so in lower ones on the stem and main branches. Pinnulae are short, subulate and alternate, and younger ones carry fibrillae at apex; they are mostly simple, but some are again pinnated with pinellae.—*Stichidia* are transformed from pinnulae being aggregated on a short stunted upper pinna and are flabellato-dichotomous; each is lanceolate, often emarginated at apex, embracing a double row of tetraspores. *Cystocarps* are unknown. Pericentral cells are 6-8, thickly corticated; midrib is insignificantly visible in wider portion of branches. *Colour* is dark purplish-brown, and the plant stains the paper purplish, on which it is dried. *Substance* is membranous; and the plant imperfectly adheres to paper in drying.

Hab.: On rocks between tide marks, widely distributed both along the Pacific side of Hondo and the coast of the Japan Sea; also in Hokkaido.

PL. XCVII. Fig. 1: frond of *Symphyocladia gracilis* (Mart.) Fkbg. in nat. size.—Fig. 2: portion of a smaller frond, $\frac{1}{4}$.—Fig. 3: terminal portion of a pinna, $\frac{2.5}{1}$.—Fig. 4: surface-view of the apical

portion of a pinna showing the terminal structure, $\frac{17.5}{1}$.—Fig. 5: tangential section of a portion of a branch showing midribs, $\frac{5.4}{1}$.—Fig. 6: cross-section of a main branch, $\frac{5.4}{1}$.—Fig. 7: fibrillae, $\frac{22.0}{1}$.—Fig. 8: portion of stichidial branch, $\frac{3.5}{1}$.—Fig. 9: portion of a stichidium, $\frac{22.0}{1}$.

Symphyclocladia gracilis (Martens) Falkenberg.

いそむらさき 岡村 稔

第XCVII圖版

體ハ纖維狀根ヨリ叢生シ細キ線狀ニシテ、1-1.5 mmノ幅ヲ有シ、5-15 cmノ高サニ達ス、體ハ基部ニ近ク數條ノ主部トナリ、主部ハ數回多少不規則ニ羽狀ニ分レ兩緣ヨリ互生ス。分枝ノ法ハ羽狀ナレドモ主枝ハ往々叉狀ノ如クナルコトアリテ、小サキ枝ノ配置下部ノモノ長ク上部ノモノ短キヨリ三角錐形ノ輪廓ヲナシ、又ハ上部ノ枝伸長シテ複羽狀ヲナシ、枝皆同一ノ高サニ達シ、且廣開スルヲ以テ、枝ノ配置恰モ扇狀ヲナスコトアリ。羽枝ハ線狀ニシテ、廣開シ、眞直ニシテ頂端卷曲スルコトナク、先端細尖ナリ、而シテ互生シ、正シク小羽枝ヲ存シ、其處此處ニ往々甚シク短クナリテ針狀ヲナシ、其モノ更ニ小羽枝ヲ存スルコトアリ、或ハ存セザルコトアリ；其斯ノ如ク針狀ヲナスモノハ殊ニ莖及主枝ノ下部ニ近ク出ルモノニ多シ。小羽枝ハ短クシテ先端尖リ、互生ニシテ、幼者ハ頂端ニ毛狀葉ヲ存ス、而シテ概テ單條ナレドモ、或ハ更ニ次位ノ小羽枝ヲ以テ羽狀ヲナスコトアリ。——「スチキジア」ハ小羽枝ヨリ變成ス；其小羽枝ハ枝ノ上部ニ在ル羽枝ノ短縮セルモノ、上部ニ集合シ、數回叉狀ニ分岐シテ扇狀ヲナス；其各枝ハ披針狀ニシテ、頂端往々二裂シ、二列ノ四分胞子囊ヲ藏ス。囊果ハ詳ナラズ。周心細胞ハ6—8條ニシテ厚ク皮層ノ組織ヲ存ス；中肋ハ枝ノ稍廣キ部分ニ微カニ認ムベシ。色ハ暗紫褐色ニシテ體ノ乾燥スルトキハ台紙ニ青紫色ヲ印ス。質ハ膜質ニシテ

乾燥スルトキハ紙ニ附着スルコト充分ナラズ。

產地：潮線間ノ岩石ニ生ジ、太平洋及日本海沿岸ニ廣ク分布ス。函館、岩内、陸前石濱、磐城九面、常陸平瀨、磯濱及大津、上總小濱、越後鯨波、能登羽咋、越前三國、隱岐、出雲。

第XCVII圖版。 1: いそむらきき, *Symphyocladia gracilis* (Mart.) Falkenb. ノ稍長大ナルモノ, $\frac{1}{1}$ 。—2: 小サキ形狀ノ標本ノ一部, $\frac{1}{1}$ 。—3: 羽枝ノ上部, $\frac{25}{1}$ 。—4: 羽枝ノ上部ヲ表面ヨリ見タルモノニシテ成長點ノ相隣レル狀ヲ示ス, $\frac{17.5}{1}$ 。—5: 表面ニ並行シテ斷リタル枝ノ斷面ノ一部ニシテ各枝ノ中肋ノ出ル狀ヲ示ス, $\frac{54}{1}$ 。—6: 主枝ノ横斷面; 數條ノ中肋アルヲ示ス, $\frac{54}{1}$ 。—7: 毛狀葉, $\frac{220}{1}$ 。—8: 「スティキジア」ノ一部, $\frac{35}{1}$ 。—9: 同上ノ一部ヲ廓大ス, $\frac{220}{1}$ 。

***Pterosiphonia fibrillosa* Okam. n. sp.**

Nom. Jap.: *Ké-hané-gusa*.

PL. XCVIII.

Fronde standing on the thallus of another alga, erect, with the stem and main branches cylindrical, a little compressed above, pinnately branched in alternate and distichous manner. Plants attain 5-10 cm (rarely 15 cm) in height and stem and branches measure 1-1.5 mm in diameter. Branches elongated, patent, very slightly flexuose, regularly furnished with alternate pinnae which become shorter and shorter upwards, so that the outline of a branch is linear-lanceolate. Pinnae which slightly overlap each other are very densely decomposed with alternate pinnulae which are again decomposed in an equal manner. Laciniae of pinnellae are incurved and further divide in similar



K.Okam del.

19 12 1 17 10 16 9 2 15 18 4 3 8 6 5 14 7 11 13

Pterosiphonia fibrillosa n. sp. けはねぐさ 新種

way and they assume an appearance somewhat dichotomous and corymbose. Mode of growth is monopodial; but as the elongation of an apical growing axis is slower than that of lateral branches standing next to the axis, it appears as if the plant grows in the sympodial manner. Near the growing portions dichotomous fibrillae ("Haarblättern") are emitted from flattish surfaces. Pinnulae and basal portions of pinnellae are more or less thickly corticated only leaving the upper portions naked for a short distance, where 9-11 pericentral cells are observed in the cross-section. Branches stand almost free and pinnulae and pinnellae arise at the intervals of mostly three articulations. *Antherozoids* and *procarps* are produced on the hairs arising near the growing portion of branches. Antheridia are lanceolate in outline. Hairs which are transformed into antheridia are simple, rarely once forked and very rarely the terminal portion of an antheridium elongates into a hair. Procarps are formed in the segment next above the basal articulation. *Cystocarps* are ovate or suburceolate with a wide opening. Pericarp is formed of longitudinal rows of cells running from the base to top and the rows are terminated with large cells which form the margin of the carpostome. *Tetraspores* are ripen in a single longitudinal row in the upper joints of laciniae of pinnellae. *Colour* dark brownish red. *Substance* soft and fleshy when recent, very much shrunk in drying. When dried plant firmly adheres to paper.

Among the materials I have obtained a very young frond which I believe surely to be the young frond of the present plant just germinated. A glance at fig. 19 will need no further description.

Hab: On the fronds of *Sargassum* and others growing between tide marks; Shirahama (Prov. Boshyu), Cape Inubō (Prov. Shimosa), Kami-shima (Prov. Shima); Enoshima (Prov. Sagami). Fruits in early summer.

Remarks: Plant in question may be taken at first glance for a species of *Polysiphonia* only differing in the mode of distichous ramification and a single longitudinal arrangement of tetrasporangia; by these characters, I think, the present plant ought to be placed under the present genus. If my identification proves not to be wrong, the present plant is very remarkable for its having “Haarblättern”; for no one species of *Pterosiphonia* is hithertoknown to have them, as Falkenberg states that in *Pterosiphonia* “Haarblättern” are entirely wanting.

PL. XCVIII. Fig. 1: two fronds of *Pterosiphonia fibrillosa* Okam. n. sp., $\frac{1}{1}$.—Fig. 2-3: cross-sections of ecorticated portion of branchlets; 2: $\frac{220}{1}$, 3: $\frac{140}{1}$.—Fig. 4: cross-section of the lower portion of a thicker main-branch, $\frac{33}{1}$.—Fig. 5: portion of a pinna, $\frac{16}{1}$.—Fig. 6: surface-view of a portion of a pinnula, $\frac{54}{1}$.—Fig. 7: growing apex of a branchlet showing the presence of fibrillae (i. e. Haarblättern”) on flattish surface, $\frac{340}{1}$.—Fig. 8: longitudinal section of a branch through the axis showing free-standing of branches, $\frac{54}{1}$.—Fig. 9: portion of a fibrilla, $\frac{390}{1}$.—Fig. 10: surface view of a pinnula showing the early formation of cortical cells, $\frac{140}{1}$.—Fig. 11: lacinae of a pinnella bearing tetrasporangia, $\frac{54}{1}$.—Fig. 12: very young antheridia, $\frac{340}{1}$.—Fig. 13: a-tittle advanced antheridium, $\frac{390}{1}$.—Fig. 14: fully formed antheridium, $\frac{390}{1}$.—Fig. 15: young procarp, $\frac{600}{1}$.—Fig. 16: young cystocarp, $\frac{600}{1}$.—Fig. 17: cystocarps, $\frac{54}{1}$.—Fig. 18: surface-view of a cystocarp showing structure of pericarp, $\frac{91}{1}$.—Fig. 19: very young frond just germinated, $\frac{390}{1}$.

***Pterosiphonia fibrillosa* Okam. 新種.**

けはねぐさ 岡村 稔

第XCVIII圖版.

體ハほんだわら其他ノ體上ニ附着シ、直立シ、莖及主枝ハ圓

柱狀ニシテ上部ニ輕ク扁圓若クハ扁壓シ、左右兩縁ヨリ二列ニ羽狀ニ互生ス；高サ 5-10 cm (稀ニ 15 cm) ニ達シ、莖及主枝ノ太サハ 1-1.5 mm. アリ。枝ハ長ク伸ビ、廣開シ、極メテ微カニ左右ニ屈曲シ、正シク羽枝ヲ互生ス；羽枝ハ漸次上方ニ短キヲ以テ枝ノ輪廓ハ細長キ披針狀ヲナス。羽枝ハ極メテ繁ク枝ヲ分チテ互ニ少シク重ナリ合ヒ小羽枝ヲ互生ス、而シテ小羽枝亦同様ニ枝ヲ分ツ。最末羽枝ノ枝ハ互ニ内方ニ屈曲シ、更ニ他ノ枝ト同様ニ分岐スル狀稍叉狀並ニ繖房狀ノ如キ觀ヲ呈ス。體ノ伸長ノ方法ハ單基性ナレドモ、中央ナル軸(即チ莖若クハ枝ノ成長點ヲ戴クルモノ)ノ伸長ノ度却テ其側部ヨリ出ル枝ノ伸長ヨリ遅キヲ以テ宛モ聯基的成長ヲ爲セルモノ、如ク見ユ。各部成長點附近ヨリハ叉狀ニ分岐セル毛狀葉概テ存在ス。小羽枝及最末羽枝ノ基部ハ多少厚ク皮層細胞ヲ被リ、唯上部ノミ少距離ノ間皮層細胞ナク、9-11 個ノ周心細胞ハ之ヲ横斷面ニ於テ認ムベシ。枝ハ殆ド其基部ニ於テ癒着スルコトナシ、而シテ小羽枝及最小羽枝ノ如キハ概テ三個ノ關節ヲ距テ、出ルモノ、如シ。——精子細胞及胎原細胞ハ枝ノ成長點附近ニ生ズル毛(即チ毛狀葉)ニ生ズ。精子器ハ披針狀ナリ。精子器ト成ル毛ハ多クハ單條ナレドモ稀ニ一回叉狀ヲナスコトアリ又極メテ罕ニハ精子器ノ頂部毛ノ如ク伸長ス。胎原細胞ハ毛ノ基部ノ關節ノ上ナル細胞ニ形成セラレ。囊果ハ卵形又ハ稍壺狀ニシテ大ナル果孔ヲ有ス。果皮ハ其基部ヨリ果孔ノ方ニ縱走セル細胞列ヨリ成リ、其列ハ其頂部ニ大ナル細胞ヲ戴ク；此細胞ハ果孔ノ縁邊ヲ形成ス。四分孢子囊ハ最末小枝ノ末枝ノ上部ノ節々ニ形成セラレ縦列ヲナス。色ハ暗紅褐色ナリ。質ハ生鮮ノトキハ柔キ多肉質ニシテ、乾燥スルトキハ甚シク萎縮ス。體ハ乾燥スルトキハ密ニ紙ニ附着ス。

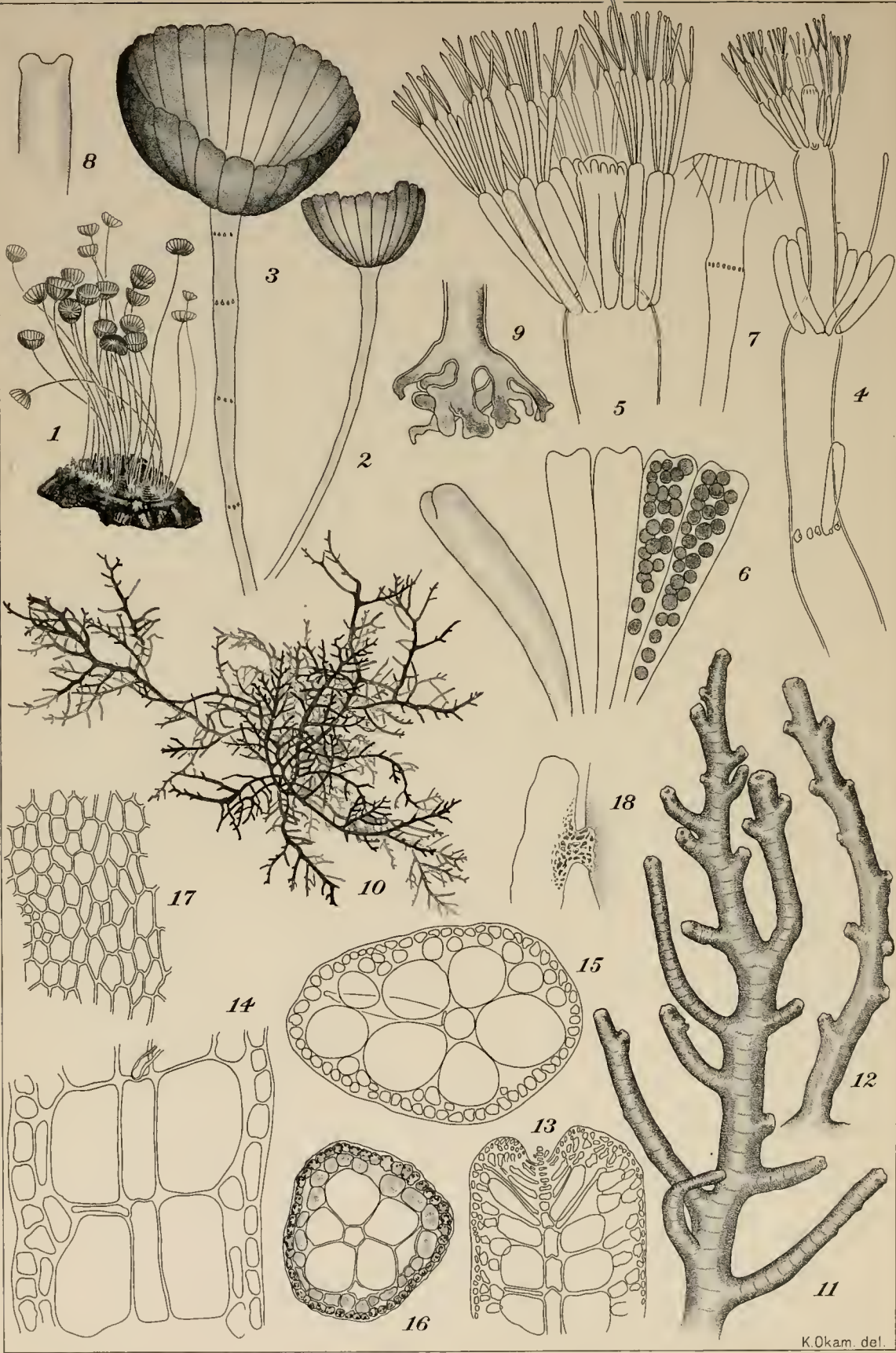
予ハ此研究中予ノ採集シタル材料ノ中ニ一嫩植物ヲ得タ

リ;其ハ確ニ本植物ノ胞子ヨリ萌發シテ少シク發育シタル幼體ナリト信ズ。第十九圖ハ之ヲ示スモノニシテ,三個ノ分裂セザル基部ノ細胞ノ他ハ既ニ縦ニ分裂シテ數個ノ周心細胞ヲ生ジタルナリ。

產地: 潮線間ニ生ズルほんだわら其他ノ植物ノ體上ニ生ズ。 安房白濱,下總犬吠岬,相州江ノ島,志摩神島。 果實:一初夏。

備考: 本植物ハ之ヲ一瞥スルトキハ *Polysiphonia* ノ一種ノ如ク見ユレドモ仔細ニ其性狀ヲ檢スレバ枝ノ左右二列ニ分岐スルト,四分胞子囊ノ一縦列ヲナセルトハ此ヨリ異ナル點ニシテ夫等ノ性質ニヨリテ予ハ之ヲ *Pterosiphonia* ニ置クベキモノナリト思惟ス。 若シ予ノ査定ニシテ誤ナラズトセバ本植物ハ毛狀葉ヲ有スル點ニ於テ著名ナラザルベカラズ; 蓋シ本屬ノ種類ハ從來一トシテ毛狀葉ヲ有スルモノナク, Falkenberg 氏ノ如キモ明カニ本屬ノ種類ニハ毛狀葉ナシト記セバナリ。

第XCVIII圖版。 1:けはねぐさ, *Pterosiphonia fibrillosa* Okam., 新種ノ二個,自然大。—2-3:皮層ナキ部分ノ小サキ枝ノ横斷面; 2: $\frac{220}{1}$; 3: $\frac{140}{1}$ 。—4: 主枝ノ下部ノ横斷面, $\frac{33}{1}$ 。—5: 羽枝ノ一部, $\frac{16}{1}$ 。—6: 同上ノ一部ノ表面, $\frac{54}{1}$ 。—7: 枝ノ成長部, 葉腋ニ在ル圓キ細胞ハ毛狀葉ノ落チタル痕, $\frac{390}{1}$ 。—8: 枝ヲ縦斷シテ二枝ノ基部ノ一關節ノミ癒着セル狀ヲ示ス, $\frac{54}{1}$ 。—9: 毛狀葉ノ一部, $\frac{390}{1}$ 。—10: 小羽枝ノ皮層細胞ノ形成セラレタル初期ノ表面, $\frac{140}{1}$ 。—11: 四分胞子囊ヲ有スル小枝, $\frac{54}{1}$ 。—12: 精子器ノ形成セラレタル初期, $\frac{390}{1}$ 。—13: 稍進ミタル精子器, $\frac{390}{1}$ 。—14: 充分成熟シタル精子器, $\frac{390}{1}$ 。—15: 胎原ノ初期, $\frac{600}{1}$ 。—16: 其稍進ミタルモノ, $\frac{600}{1}$ 。—17: 囊果ノ充分成レルモノ, $\frac{54}{1}$ 。—18: 囊果ノ表面, $\frac{91}{1}$ 。—19: 嫩植物, $\frac{390}{1}$ 。



Acetabularia caraibica つかさのり Fig.1-8.
Chondria intricata Okam. n.sp. もつれうか Fig.9-18.

Acetabularia caraibica Kuetz.

Nom. Jap.: *Tsuno-kasa-nori*.

PL. XCIX, Fig. 1-8.

Acetabularia caraibica Kuetz. Tab. Phyc. VI, t. 93; J. Agardh Till Alg. Syst. VIII, p. 10; De Toni Syll. Alg. Vol. I, p. 418.—*A. crenulata* Harv. In *Friendly Isl. Alg. exs.*, n. 81. nec Lamour.

Fronds minute, tufted 2-3.5 cm. high. Stipes very slender, thinly incrustated with carbonate of lime, whitish green. Discs campanulate or cup-shaped, very concave, 2-5 mm. in diameter, formed of strongly-incurved, linear-cuneate utriculi which are emarginated at apices and strongly gibbose. Utriculi are fewer in number (about 30 or more) and are separated at outer margin by short gaping clefts. Spores are globose and bright green, free from lime. *Substance* is rigid and in drying the plant does not adhere to paper.

Hab.: On shells at shallow place. Nozaki (Noto-jima in Prov. Noto; col. Mr. Kenzō Kato). Spores: summer.

PL. XCIX. Fig. 1: fronds of *Acetabularia caraibica* Kuetz. in nat. state and size.—Fig. 2-3: two fronds detached; fig. 3 has 29 utriculi and 3.5 cm long stem; $\frac{5}{1}$ and $\frac{10}{1}$ respectively.—Fig. 4-5: growing apices of young fronds with sterile whirls; 4: $\frac{42}{1}$; 5: $\frac{91}{1}$.—Fig. 6: fertile utriculi with spores viewed from the inner side, scarcely 2-3 mm long; one detached and seen from the lateral side; $\frac{22}{1}$.—Fig. 7: top of stipe having fertile whirls (*i. e.* utriculi), $\frac{22}{1}$.—Fig. 8: gibbose top of a utriculus, $\frac{22}{1}$.—Fig. 9: root, $\frac{54}{1}$.

Acetabularia Lamouroux 1816.

か さ の り 屬.

ACETABULARIEAE, DASYCLADACEAE.

ダデクラジア科, かさのり亞科.

體ハ傘狀ニシテ多少長キ柄ヲ有シ, 柄即チ莖ハ多少厚ク石灰質ヲ被ムリ, 概シテ單條ノ細キ圓柱狀ニシテ下部ハ不規則ニ分岐セル根様枝ヲ以テ固着シ, 上部ハ一層若クハ數層ノ圓形ノ傘ヲ有ス. 傘ハ 20-100 個ノ互ニ接着シタル棍棒狀ノ囊枝即チ實ヲ生ズル部ヨリ成リ, 囊枝ハ莖ト内部交通ス. 各囊枝ノ基部ニ於テ莖ノ頂端ト囊枝ノ基部トノ間ニ小サキ膨起部アリ, 其各囊枝ヨリ出ルモノ相隣接シテ低キ堤狀ノ環ヲ傘ノ内底ニ形成ス. 此膨起部ヨリハ其以前中性ノ葉(即チ毛狀葉)出タルナレドモ, 後脱落シテ其班痕ヲ印スルノミ. 此等ノ中性葉ハ 2-4 回分岐シ, 2-7 條ノ圓柱狀細胞ヨリ成リテ, 隔膜ヲ以テ互ニ區劃セラル(4-5 圖). 囊枝(傘ヲナス部分)ノ中ニハ無數ノ「アブラノ」胞子ヲ形成シ, 其一部破レタル部分ヨリ游離セラレ各胞子中ニ多數ノ「ガメート」ヲ形成ス. 「ガメート」ハ接合シテ, 「ジゴート」トナリ, 直ニ新植物トナルナリ.

熱帶ノ海及オウストラリアノ沿岸等ニ 7-8 種アリ; 中ニ就キ *A. Mediterranea* Lmx., かさのり, ハ地中海ニ産シ, 能ク各部ノ構造ヲ研究セラレタルモノニシテ, 琉球ニモ産ス. *A. Mediterranea*ノ根様枝ノ一部ニ薯蕷狀部ヲ造リ, 此處ニ養分ヲ蓄ヘテ上部ノ萎死シタル後越年シ, 更ニ此部ヨリ新條ヲ發スト云フ. 他ノ種類モ亦同様ノ事アルベシ.——屬ノ名ハ *Acetabulum* (杯) ヨリ成ル.

Acetabularia caraibica Kuetz.

つのかさのり 岡村 稱.

第XCIX圖版, 1-8圖.

體ハ小ニシテ, 叢生シ, 2-3.5 cm 高シ. 莖ハ甚細ク, 薄ク炭酸石灰ヲ被ムリ, 蒼白色ナリ. 傘ハ鐘形又ハ椀形ニシテ, 凹形ヲナシ, 直徑 2-5 mm. ニ達シ, 強ク内方ニ彎曲セル, 細長キ楔形ノ囊枝 (Utriculi) ヨリ成ル; 囊枝ハ頂端ニ突頭ヲ有シ, 各稍圓頭狀ヲナス而シテ其數多カラズ (約三十個乃至餘) シテ縁邊ヨリ淺ク切レ込ミタル如キ裂目ヲ以テ互ニ少シク相離ル. 胞子ハ球狀ニシテ鮮綠色ナリ石灰質ナシ. 質ハ硬クシテ脆ク, 乾燥スルトキハ紙ニ附着セズ.

產地: 遠淺ノ場所ニシテ, 深サ膝ニ及バザル深所ノ介殼上ニ獲タリ. 能登國能登島, 東島村大字野崎 (小口瀬戸). 胞子: 一夏季.

分布: 印度洋, フレンドリー島.

本植物ハ石川縣第二中學校加藤賢三氏ガ明治三十九年八月中旬上記ノ場所ニ於テ採集シタル所ニシテ未ダ他ニ其所産ヲ知ラザル所ナリトス. 此屬ノ數種ハ琉球九州方面ニ産スルコト稀ナラズト雖モ, 其日本海ニ産スルハ稍珍トスベシ. 和名ハ囊枝ノ頂端ノ二突頭アルニ因メリ.

第XCIX圖版. 1: つのかさのり, *Acetabularia caraibica* Kuetz. ノ自然ノ狀態, $\frac{1}{1}$ —2-3: 二個體; 3圖ハ29個ノ囊枝ト 3.5 cm. ノ長サノ莖トヲ有ス; 2: $\frac{5}{1}$; 3: $\frac{10}{1}$.—4-5: 幼キ體ノ成長部ニシテ, 中性ノ輪生枝ヲ有スル狀; 4: $\frac{42}{1}$; 5: $\frac{21}{1}$.—6: 成熟シタル囊枝ニシテ胞子ヲ藏スルモノヲ其内面ヨリ見タルモノ, 辛フジテ 2-3 mm. ノ長サアリ; 側ニ其一ヲ離シテ側面ヲ示ス; $\frac{22}{1}$.—7: 囊枝ヲ着ケタル莖ノ頂部, $\frac{22}{1}$.—8: 囊枝ノ二突頭ヲ示ス, $\frac{22}{1}$.—9: 根, $\frac{54}{1}$.

Chondria intricata Okam. n. sp..

Nom. Jap.: *Motsure-yuna*.

PL. XCIX, Fig. 10-18.

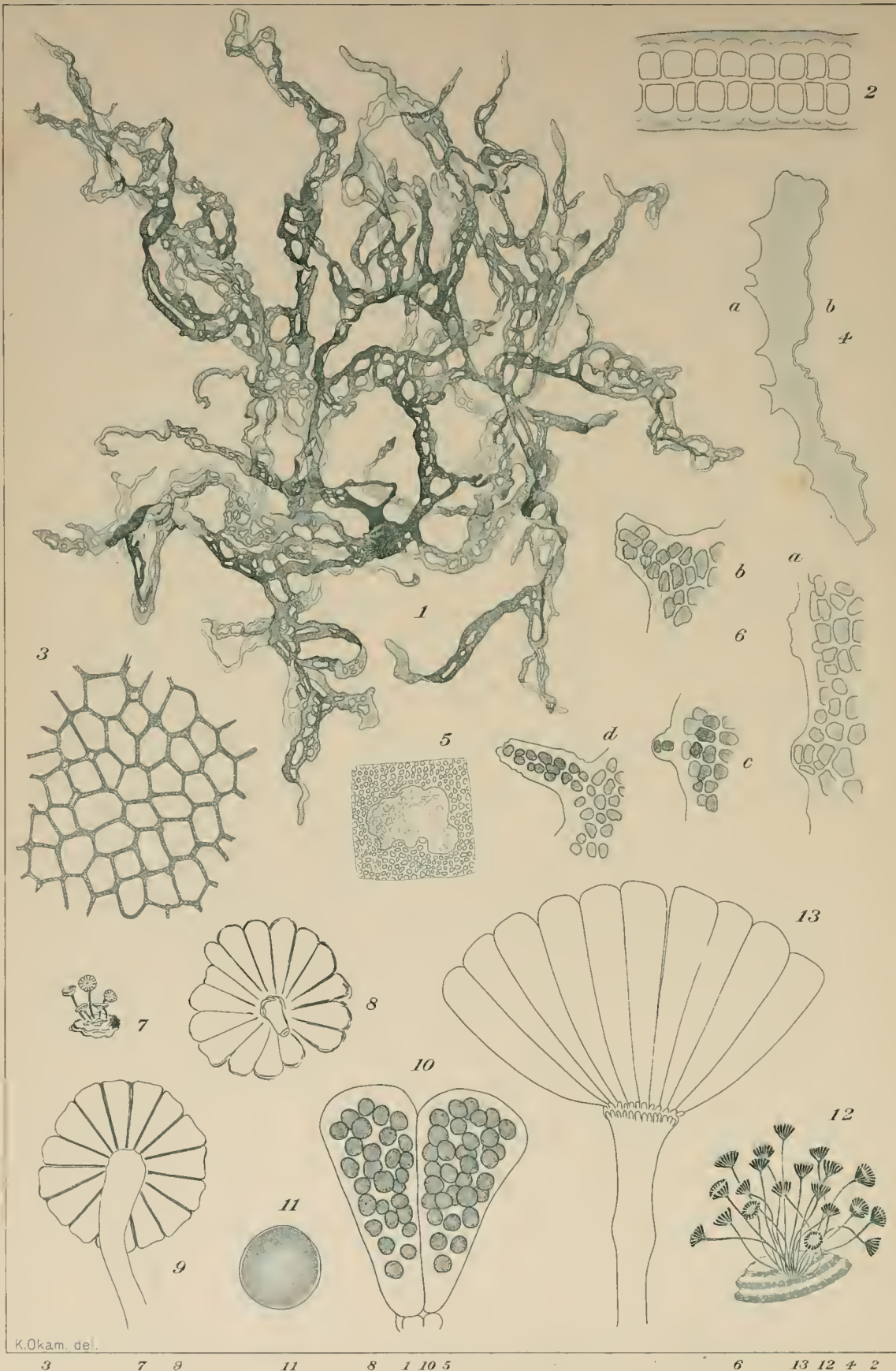
Fronds filiform, somewhat loosely intricate and coalesced to each other, forming a globular mass, cylindrical or slightly compressed, 2-3 times vaguely branched in pinnate and subdistichous manner. Branches patent, as a rule alternate, but here and there opposite and a few secund; they coalesce to each other by forming root-like attachments mostly on apical portions of branches and are not able to be detached without rupturing. Branches and branchlets not constricted at bases, cylindrical, of subequal thickness on both ends and roundish obtuse at apices. Pericentral cells are translucently visible in upper and younger portions of branches through cortical cells which are areolated with polygonal cells in surface view. Growing point is placed in the hollow excavated on the top of branches and branchlets. Fruits of both kinds unknown. *Colour* light flesh-red. *Substance* membranaceous and the plant adheres to paper in drying.

Hab: Washed ashore. Abura-tsubo and Enoshima (Prov. Sagami).

Remarks:—New plant under subgenus *Coelochondria* Falkenb.

PL. XCIX. Fig. **10**: frond of *Chondria intricata* Okam. with some branches set free, $\frac{1}{1}$.—Fig. **11**: branch, $\frac{10}{1}$.—Fig. **12**: ramulus with papilliform ramelli, $\frac{10}{1}$.—Fig. **13**: longitudinal section of a branch showing the growing apex, $\frac{91}{1}$.—Fig. **14**: longitudinal section of a branch through the central axis showing the structure of frond, $\frac{175}{1}$.—Fig. **15**: cross-section of a little compressed portion of a branch, $\frac{1}{1}$.—Fig. **16**: the same of a cylindrical portion of a branch, $\frac{54}{1}$.—Fig. **17**: surface-view of the cortical layer, $\frac{91}{1}$.—Fig. **18**: adhesion of branches with a root-like process, $\frac{42}{1}$.





K. Okam. de.

3 7 9 11 8 10 5 6 13 12 4 2
Ulva reticulata Forsk., あみあをさ, Fig. 1-6.
Acetabularia minutissima Okam. n. sp. ひかかさのり, Fig. 7-11.
Acetabularia Calyculus Q. et G., ほぞえがさ, Fig. 12-13.

Chondria intricata Okam. 新種.

もつれゆな 岡村 稔.

第XCIX 圖版 Fig. 10-18.

(Chondria C. Ag. (やなぎのり屬) ノ性質ハ第一卷 14頁ニアリ)

體ハ絲狀ニシテ稍緩ク錯綜シ、枝々互ニ癒着シテ團塊ヲナス、圓柱狀又ハ少シク扁壓、2-3回不規則ニ羽狀ニ稍兩側ヨリ分歧ス。枝ハ廣開シ、規則トシテハ互生ナレドモ、其處此處ニ對生スルモノアリテ中ニハ二三偏在スル所アルモアリ。枝ハ多クハ枝端ニ近ク根ノ如キ附着器ヲ形成シテ互ニ癒着スルヲ以テ之ヲ取離サントスルトキハ多少枝ヲ毀損セザル能ハズ。枝及小枝ハ基部狹細ナラズシテ圓柱狀ヲナシ、上下兩端ニ略ホ同様ノ太サヲ有シ、頂端圓頭ナリ。周心細胞ハ上部ノ幼キ枝ニ於テ皮層ヲ通シテ稍窺フヲ得ベク、皮層細胞ハ多角形ニシテ網狀ヲナス。成長點ハ枝及ビ小枝ノ頂端ニ在ル窪ノ中ニ在リ。果實ハ今詳ナラズ。色ハ肉色ナリ。質ハ膜質ニシテ、乾燥スルトキハ紙ニ附着ス。

產地：海岸ニ打揚ラレタリ。 相州江ノ島及油壺。

備考：亞屬 *Coelochondria* Falkenb. 中ニ入ルベキ新種ナリ。

第XCIX.: 10: もつれゆな, *Chondria intricata* Okam., ノ體ニシテ枝ハ少シク離レシメタリ, $\frac{1}{1}$.—11: 枝, $\frac{10}{1}$.—12: 乳頭狀ノ小枝ヲ有スル小枝, $\frac{10}{1}$.—13: 枝ヲ縱斷シテ成長點ヲ示ス, $\frac{91}{1}$.—14: 枝ヲ縱斷シテ構造ヲ示ス, $\frac{175}{1}$.—15: 稍扁壓セル枝ノ橫斷面, $\frac{91}{1}$.—16: 圓柱狀ノ枝ノ橫斷面, $\frac{54}{1}$.—17: 皮層ヲ表面ヨリ見タルモノ, $\frac{91}{1}$.—18: 根ノ如キ附着器ヲ以テ枝ノ癒着スル狀, $\frac{42}{1}$.

Ulva reticulata Forsk.

Nom. Jap. : *Ami-awosa*.

PL. C. Fig. 1-6.

Ulva reticulata Forsk. Fl. *Æg. Arab.* p. 187; J. Ag. Till Alg. Syst. VI, p. 166; Zanard. Pl. Mar. Rubr. p. 294; De Toni Syll. Alg. I, p. 113; 岡村, 日本藻類名彙, p. 166.—*Phycoseris reticulata* Kuetz. Tab. Phyc. VI, t. 29; Id. Sp. Alg. p. 478.

Fronds deeply and irregularly laciniated with laciniae undulato-torted and perforated by pores of different sizes. Thus the plant is like a broken network whose meshes are produced by local decaying of cells and confluence of pores thus formed. The natural or free margin, which is original and not secondarily produced by perforation, is provided with microscopical teeth set at different intervals. Cells are isodiametrical or a little longer as broad and the outer side is much thickened. *Colour* bright green. Plant imperfectly adheres to paper.

Hab : Ryukyu.

PL. C. Fig. 1 : frond of *Ulva reticulata* Forsk., $\frac{1}{1}$.—Fig. 2 : cross-section of frond, $\frac{600}{1}$.—Fig. 3 : surface-view of frond, $\frac{600}{1}$.—Fig. 4 : portion of frond; *a* : original margin; *b* : margin formed by perforation; $\frac{91}{1}$.—Fig. 5 : surface-view of frond showing the beginning of a pore by the decaying of cells, $\frac{175}{1}$.—Fig. 6, *a-d* : different forms of teeth, $\frac{300}{1}$.

Ulva (Linn. 1737) Wittrock.

あをさ屬.

ULVACEAE. あをさ科.

體ハ綠色, 薄ク膜狀ニシテ他物ニ固着シ, 二層ノ細胞ヨリ成ル; 細胞ハ下部ノモノヲ除ク外多角形ニシテ密ニ相接シ, 下部

ノモノハ棍棒狀ニシテ各長キ無色ノ絲即チ健成根樣絲ヲ有シ、此絲體ノ兩面ノ間隙ヲ走リテ他物ニ附着シ其相集レルモノ極メテ短キ莖ノ如キ觀ヲ呈ス。色素體ハ盤狀ニシテ細胞ノ外側ニ在リ、通常一個ノ「ピレノイド」ヲ其中央ニ含ム。細胞分裂ハ下部ノ棍棒狀細胞ヲ除クノ外總テノ細胞ニ於テ縦ノ二方面ニ分裂スルヲ得レドモ、何レノ部分モ同様ノ勢ニテ成ルト云フニハアラス。「ガメート」ハ二條ノ纖毛ヲ有シ體ノ上部ノ縁邊ニ近キ部分ノ總テノ細胞ニ形成セラレ、其外壁ノ小孔ヨリ游出ス。「カメート」ノ接合ハ或種類ニテ視察セラレ其「ジゴート」ハ萌發シテ短キ細胞列ヨリ成レル絲狀體トナリ、後分裂シテ二層ノ膜狀體トナル。

全世界ノ海水及ビ汽水ニノミ産シ、約八種餘アリ。——屬ノ名ハ羅匈語 *Ulva* (沼澤ノ植物)ヨリ起ルモノノ如ク多分 Celts 語ノ *Ul* (水)ニ基因スルナラント云フ。

生殖ノ方法ニ就テ上ニ記スル所ハ或種ニ於テ明ニ視察セラレタルモノナレドモ、此外游走子ノ如キモノアルベク、又「ガメート」ノ單爲生殖ヲナスモノアルベシト雖モ、其生涯ノ歴史ハ未ダ充分研究セラレズ。

Ulva reticulata Forsk.

あみあをさ 岡村 稱

第C圖版, 1-6圖.

體ハ深ク且不規則ニ裂ケ、裂片ハ波狀ヲナシ又ハ捻レ、大小不定ノ孔ヲ有ス;此故ニ體形恰モ破レタル網ノ如ク、網ノ目ハ其局部ノ細胞漸次衰退シテ孔トナリ、此孔數個相連ル等ニテ成ル。在來ノ縁邊即チ孔ノ爲ニ出來タルモノナラザル縁邊ハ顯微鏡的齒狀突起アリテ其位置遠近一ナラス。細胞ハ高

サ幅サトモ略ボ同大ナルカ又ハ幅ヨリモ少シク高キ多角形ニシテ、外壁ハ頗ル厚シ。色ハ鮮綠色ナリ。不充分ニ紙ニ附着ス。

產地：琉球。

分布：専ラ諸種ノ海藻上ニ附着ス；紅海、錫蘭(印度洋)、ニウフホルランド、フヒリツピン島。

第C圖版。1：あみあをさ, *Ulva reticulata* Forsk. ノ自然大。—2：横斷面, $\frac{600}{1}$ 。—3：體ノ表面, $\frac{600}{1}$ 。—4：體ノ一部；a, 在來ノ縁邊；b, 孔ノ爲ニ出來タル縁邊； $\frac{91}{1}$ 。—5：孔ノ出來カ、ル状態, $\frac{175}{1}$ 。—6, a-d：縁邊ノ鋸齒, $\frac{390}{1}$ 。

Acetabularia minutissima Okam. n. sp.

Nom. Jap. : *Hina-kasanori*.

PL. C, Fig. 7-11.

Fronds tufted, very minute, rather thickly calcified ; stem scarcely 5 mm long ; discs scarcely 3 mm. in diameter, shallow-cup shaped, composed of about 16 oblong-cuneate round-headed utriculi which includes globular spores.

Hab. : Futae (Amakusa Isls. ; in the depth of 3 fathoms) ; Prov. Hyuga (on *Ceratodictyon spongioides* col. by Yendo). Spores : summer.

Remarks : Plant distinguished by its smallest but matured frond with the smallest utriculi.

PL. C. Fig. 7: fronds of *Acetabularia minutissima* Okam. n. sp. in nat. size (from Futae).—Fig. 8: another frond not decalcified (from Prov. Hyuga), $\frac{10}{1}$.—Fig. 9: one of fronds from Futae not decalcified, $\frac{10}{1}$.—Fig. 10: utriculi decalcified (from Futae), 800 μ broad in the widest part, $\frac{42}{1}$.—Fig. 11: spore, 82 μ in diam., $\frac{175}{1}$.

Acetabularia minutissima Okam. 新種.

ひなかさのり 岡村稱.

第C圖版, 7-11圖.

體ハ叢生シ, 甚ダ小ニシテ稍 厚ク炭酸石灰ヲ被リ, 莖ハ辛フジテ5 mm長ク, 傘ハ直徑辛フジテ4 mmニ達シ, 淺キ盃狀ニシテ約16ノ囊枝ヨリ成ル. 囊枝ハ稍長楕圓形—楔形ニシテ圓頭ヲナシ, 球狀ノ孢子(直徑82 μ)ヲ藏ス.

產地: 天草島二ノ江(3 尋); 日向 (かいめんさう上ニ於テ遠藤氏採) 孢子:—夏季

備考: 體形極メテ小ナレドモ孢子アルヲ以テ成熟セルモノ、如ク其小形ナルト囊枝ノ少數ナルトヨリ今新種トナス.

第C圖版. 7: ひなかさのり, *Acetabularia minutissima* Okam. 新種(二ノ江産), $\frac{1}{1}$.—8: 日向産ノモノ (脱灰セザルモノ), $\frac{10}{1}$.—9: 二ノ江産ノモノ (脱灰セザルモノ), $\frac{10}{1}$.—10: 囊枝ヲ脱灰シテ示ス(二ノ江産); 最モ濶キ部分ニテ800 μ アリ, $\frac{42}{1}$.—11: 孢子(直徑82 μ) $\frac{175}{1}$.

Acetabularia Calyculus Quay et Gaimard.

Nom Jap: *Hoso-e-gasa*.

PL. C, Fig. 12-13.

Acetabularia Calyculus Quay et Gaimard in Freycinet Voy. Zool. tab. 90, f. 6-7; Kuetz. Sp. Alg. p. 510; Harv. Phyc. Austr. t. CCXLIX; J. Ag. Till Alg. Syst. VIII, p. 171; de Toni Syll. Alg. I, p. 418.

Minute, thinly incrustated. Fronds tufted with slender stem (2-3 cm. long). Discs campanulate or cup-shaped (2-3 mm in diam.), very concave, formed of linear cuneate utriculi (20-28 in number) which have obtuse apices.

Hab. : On shells. Arikawa in Goto Isls. (col. Ando).

PL. C. Fig. **12** : dry fronds of *Acetabularia Calyculus* Quay et Gaimard, $\frac{1}{1}$.—Fig. **13** : portion of a frond pressed and decalcified, $\frac{22}{1}$.

Acetabularia Calyculus Quay et Gaimard.

ほそえがさ 岡村稱

第C圖版, 12-13圖,

体ハ小ニシテ, 薄ク石灰質ヲ被リ, 叢生シ, 纖細ナル莖ヲ有ス, 莖ノ長サ2-3 cm. アリ. 傘ハ鐘狀又ハコップ狀ニシテ, 甚シク凹形ヲナシ, 直徑2-3 mm. アリ, 細長キ楔形ノ囊枝ヨリ成リ, 囊枝ノ數ハ20-28ニシテ鈍頭ナリ.

產地: 介殼上ニ附着ス. 五島有川(安藤氏).

分布: ニウフホルランド西部, モーリシアス島.

第C圖版. **12**: ほそえがさ, *Acetabularia Calyculus* Quay et Gaimardノ體, $\frac{1}{1}$ (乾燥品ヨリ畫ク), $\frac{1}{1}$.—**13**: 體ノ一部ヲ脱灰シ壓ヲ加ヘタルモノ, $\frac{22}{1}$.

(第二卷完結)

ERRATA AND ADDENDA.

正 誤 及 追 加

p. 21 :	4th	line	from	below	read	<i>form</i>	for	<i>from</i>
p. 30 :	11th	„	„	below	„	Laurencia	„	Laurenica
p. 51 :	15th	„	„	above	„	caespitosa	„	coespitosa
p. 54 :	9th	„	„	below	„	„	„	„
p. 63 :	5th	„	„	below	„	$\frac{22}{1}$	„	$\frac{1}{1}$
p. 114 :	10th	„	„	below	„	not	„	not.
p. 119 :	12th	„	„	below	„	rosette	„	rosette
p. 127 :	3rd	„	„	above	add	LXXXVII.		

p. 140 : put the following lines under the 10th line *PL. XC.*

Chordaria flagelliformis (Muell.) Ag. Sp. I, p. 164 ; J. Ag. Sp. I, p. 66 (excl. Var. γ) ; Id. Till Alg. Syst. p. 64, t. 3, f. 1 ; Kuetz. Sp. p. 546 ; Id. Tab. Phyc. VIII, t. 11, f. 1 ; Reinke Atlas deutsch. Meeresalg. t. 39, f. 1-7 ; De Toni Syll. Alg. III p. 432 ; 岡村, 日本藻類名彙 p. 124.—*Fucus flagelliformis* Muell. Fl. Dan. tab. 650 ; Turn. Hist. Fuc. t. 85.—*Scytosiphon tomentosus* Fl., Lyngb. Hydrophyt. Dan. p. 62.—*Scytosiphon hippuroides* Lyngb. Hydrophyt. Dan. p. 63, t. 14, B ?

p. 144 : 15th line from above read *lucinae* for *lucineae*

p. 157 : put the following lines under the line *PL. XCIV.*

Gloiopeltis cervicornis (Suring.) Schmitz Syst. Übers. Florid. p. 18, also in Engl. u. Prantl Nat. Pflanzenfam., Algae, p. 508 ; Okam. Alg. Jap. Exsic. no. 81 (岡村, 日本海藻標品, 第 81 號) ; 岡村, 日本藻類名彙 p. 84.—*Gloiopeltis cervicornis* Suring. Index praecurs. no. 70 (Hedw. 1870, p. 129, 1868, p. 53) ; de Toni Syll. Alg. IV, p. 1535.—*Endotrichia cervicornis* Suring. Alg. Japon. (1870) p. 34, tab. XXI-XXII ; Id. Illustr. Esp. Gloiop. t. I, f. 7 ; J. Ag. Epier. p. 277.

p. 158 : 12th line from below add Shikine-shima (Prov. Idzu) and
Ogasawarajima

PL. LXXXVIII : read *Dasyphila* for *Dasyphylla*

PL. XCIV: put *Gloiopeltis cervicornis* (Suring.) Schum. for *Gloiopeltis cervicornis* Suring.

Corrigenda.

訂 正

p. 33-34 and Pl. LIX, fig. 1-6: *Gelidium rigidum* (Vahl) Grev. should be corrected for *Gelidiopsis rigidum* (Vahl) Weber van Bosse.

At the time when I made the study of *Gelidium rigidum* I doubted its structure to be different from that of a *Gelidium*-species; but as I did not find a proper genus to receive it I published it under that name. After some months Prof. W. G. Farlow was kind enough to let me know that Mme Weber v. Bosse in her paper "Note sur deux algues de l'archipel Malaisien" (Reueui des Travaux Botaniques Neerlandais 1904, no. 1, p. 14) (this paper was inaccessible to me) stated that she found that the structure of *Gelidium rigidum* was not that of a *Gelidium* but of a *Gelidiopsis* and she gave it the name of *Gelidiopsis rigidum* (Vahl) Weber v. Bosse. I agree with her opinion and here I correct my plate LIX fig. 1-6 for *Gelidiopsis rigidum* (Vahl) Weber v. Bosse.

以下和文ノ正誤及追加

- 第 9 頁 上ヨリ 6 行: 互ハ並ノ誤
第 47 頁 下ヨリ 8 行: 體ノ髓 „
第 49 頁 上ヨリ 6 行: シハシ „
第 56 頁 上ヨリ 9 行: coespitosa ハ cacspitosa ノ誤
第 59 頁 上ヨリ 1 行: „ „ „ „ „
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第 136 頁 上ヨリ 8 行: 輝^ルハ輝^ルノ誤
第 140 頁 上ヨリ 10 行: ノ下へ第 187 頁ニ記シタル *Chordaria flagelliformis* ノ文献ヲ加フ
第 141 頁 末 行: 124 ハ 123 ノ誤
第 157 頁 PL. XCIV ノ行ノ下へ第 187 頁ニ記シタル *Gloiopeltis cervicornis* ノ文献ヲ加フ.
第 159 頁 下ヨリ 4 行: 組ハ結ノ誤
第 161 頁 下ヨリ 7 行: 伊豆式根島小笠原島ヲ加フ.
第 LXXXVIII 圖版: *Dasyphylla* ハ *Dasyphila* ノ誤
第 XCIV 圖版: *Gloiopeltis cervicornis* Suring. ハ *Gloiopeltis cervicornis* (Sur.) Schm. ノ誤

訂 正 追 加

第 33 頁ヨリ 35 頁ニ至ル *Gelidium rigidum* (Vahl) Grev. ト云ヘル學名ヲ *Gelidiopsis rigidum* (Vahl) Weber v. Bosse ト革メ、第 LIX 圖版、第 1-6 圖ヲ同ジク其學名ニ革ム。 變更ノ箇所ハ唯此名稱ノ箇所ノミヲ訂正スレバ足り、第 33 頁ニ列記シタル文献ハ其マ、*Gelidiopsis rigidum* (Vahl) Weber v. Bosse ノ異名トナルナリ。 而

シテ、此新學名ノ出典ハ Weber v. Bosse “Note sur deux algues de l'archipel Malaisien” p. 14 (Recueil des Travaux Botaniques Neerlandais 1904, No. 1) ナリ。依テ此文献ヲ第33頁ノ文献ノ最初ノ行ニ書キ加フルヲ要ス。

曩ニ予ノ *Gelidium rigidum* (Vahl) Grev. ヲ研究スルニ當リ、偶々其體ノ構造ノ *Gelidium* 屬ノモノト異ルコトニ氣附キタレドモ別ニ之ヲ入ルベキ適當ノ屬ヲ發見セザリシ故先人ノ說ニ從ヒ第 LIX 圖版ニ於テ其マヽ發表シタリ。其後米國ノ大家 W. G. Farlow 先生ヨリノ書面ニテ此植物ハ Weber van Bosse 女史ノ說ニテハ體ノ構造 *Gelidium* ノモノト同ジカラズシテ *Gelidiopsis* ノ中ニ入ルベキモノナリトノコトヲ通知セラレタリ。其出典ハ上ニ記ス所ナリ(此文献ハ予之ヲ見ル能ハズ)。予モ女史ノ說ニ賛成スルヲ以テ茲ニ之ヲ革ム。

以下記ス所ノ *Gelidiopsis* 屬ノ性質ハ第34頁ニ入ルベキモノナリ。

Gelidiopsis Schmitz 1895.

てんぐさもどき屬。

CERATODICTYEAEE, SPHAEROCOCCACEAE.

たまみ科、かいめんさう亞科。

體ハ直立、不規則ニ分岐シ、甚緻密ナル細胞組織ニシテ、軟骨様、強韌、時ニ殆ド角ノ如キ硬サナルコトアリ。髓部ハ細クシテ長ク伸ビタル細胞ヨリ成リ、皮層ハ稍短カキ幅濶キ細胞ヨリ成リ、此モノ外部ニ至ルニ從テ漸次小トナリ其極小サキ皮層細胞トナリ薄キ又ハ稍厚キ皮層ヲナス。——四分胞子囊ハ十字様ニ分裂シ、各枝ノ末梢ニ形成セラレ、少シモ他ノ部ト異ナラザル皮層中ニ散在ス。囊果ハ卵形ニシテ各枝ノ末端ニ一個

ヅ、生ジ又ハ集リテ座ス；囊果ノ構造及其形成ノ方法等ハかいめんさう屬 (Ceratodietyon Zanard. 第2頁) ニ同ジ。

此屬ハ Schmitz 氏ガ Engler's Botan. Jahrbücher Vol. XXI, p. 148 1895 ニ於テ發表シタルモノニシテ *Gelidiopsis variabilis* Schmitz (*Gelidium variabile* Grev.) ヲ模範トセリ、印度洋ニ産ス；又一種 *G. pannosa* Schmitz (*Gelidium pannosum* Grev.) ハ獨逸領東部亞弗利加及フヒ井ジー島ニ産ス。——屬ノ名ハ *Gelidium* (てんくさ屬) ト *opsis* (類似) トヨリ成ル即チ體質ノ類似スルヨリ起レリ、和名てんぐさもどきモ亦其意ナリ。

學 語 解

學語ハ圖譜第一卷第258頁ニ掲ゲタル外下ノ數語ヲ加フ。

根様絲 }	Rhizoid :	根様細胞ト同ジ
根様枝 }		
小疣狀.....	glandulose :	小疣狀ハ別ニ譯字ニハアラズ其所ノ都合ニテ用井タルナリ。
中性.....	sterile :	實ヲ結バザルモノ、意。
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楷書ノ羅馬數字(頁數)及亞刺比亞數字(圖版)ハ本圖譜第二卷ノ分ニシテ, 草體ノ羅馬數字ハ同第一卷ノ分ナリ; 又日本數字ハ日本海藻圖說ニ屬ス。 草體ノ學名ハ異稱ナリ。

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第二卷 第一集

理學博士 岡村金太郎著

ICONES OF JAPANESE ALGÆ

Vol. II, No. I

BY

K. Okamura *Rigakuhakushi*



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か い め ん さ う

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あ や に し き

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は ひ て ん ぐ さ

Herpopteros zonaricola Okam. n. sp.

し の ぶ ぐ さ

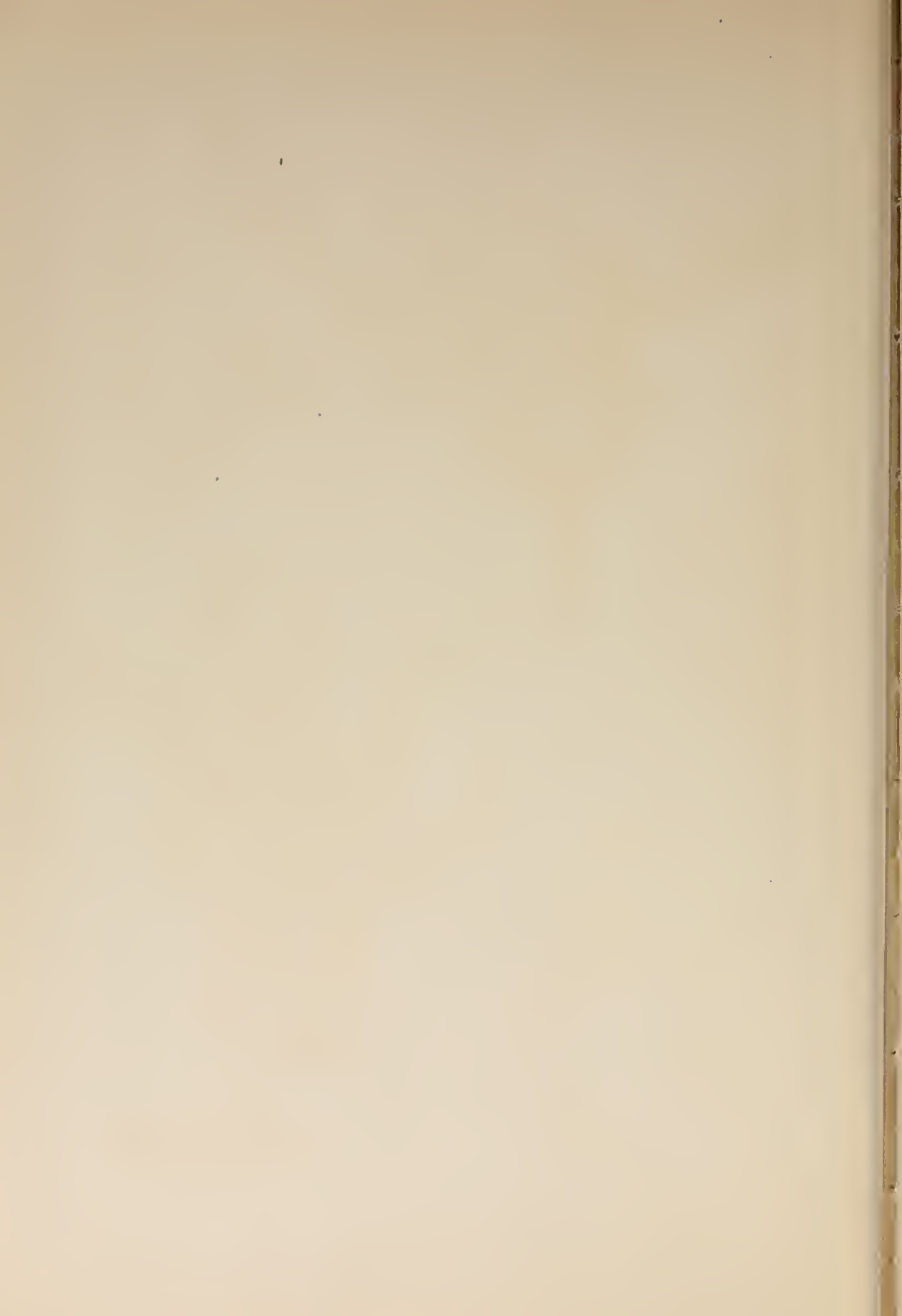
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November, 1937.

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理學博士 岡村金太郎著

ICONES OF JAPANESE ALGÆ

Vol. II, No. II

BY

K. Okamura *Rigakuhakushi*

Contents of No. .II (PL. LVI—LX)



Hypnea variabilis Okam. n. sp.

Hypnea Saidana Holmes.

Peyssonnelia involvens Zanard.

Laurencia dendroidea J. Ag.

Gelidium rigidum (Vahl) Grev.

Hypnea museiformis (Wulf.) Lamour.

Laurencia concinna Mont.

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くだいわのかわ

きぶりそと

しまてんぐさ

かぎいはらのり

そとのはな

Published

by

THE AUTHOR

November, 1937.

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BY

K. Okamura *Rigakuhakushi*



Contents of No. .III (PL. LXI—LXV)

Eucheuma spinosum (L.) J. Ag.	き り ん さ い
Halymenia formosa Harv.	つ べ れ ぐ さ
Polyopes Polyideoides Okam.	ま た ぼ う
Hyalosiphonia coespitosa Okam. n. g. et sp.	い そ む め も ど き
Valonia confervoides Harv.	ほ そ ば ろ に あ

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ICONES OF JAPANESE ALGAE

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By

K. Okamura *Rigakuhakushi.*



Contents of No. IV. (Pl. LXVI—LXX)



Carpopeltis rigida (Harv.) Schmitz
Carpopeltis angusta (Harv.) Okam.
Carpopeltis articulata Okam.
Carpopeltis elata Okam.
Prionitis patens Okam.

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Published

By

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K. OKAMURA.

ALGAE JAPONICAE EXSICCATAE.

日本海藻標品 第二帙

FASCICULUS II.

- | | |
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| 51. <i>Porphyra suborbiculata</i> Kjellm. | 76. <i>Ptilota pectinata</i> (Gunn.) Kjellm.
f. <i>typica</i> Kjellm. |
| 52. <i>Batrachospermum moniliforme</i>
Roth. | 77. <i>Carpoblepharis Schmitziana</i>
(Rbd.) Okam. |
| 53. <i>Batrachospermum virgatum</i>
(Kuetz.) Sirod. | 78. <i>Ceramium clavulatum</i> Ag. |
| 54. <i>Batrachospermum Gallaei</i> Sirod. | 79. <i>Microcladia corallinae</i> (Mart.)
Okam. |
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J. Ag. |
| 56. <i>Endocladia complanata</i> Harv. | 81. <i>Gloiopeltis cervicornis</i> (Suring.)
Schmitz. |
| 57. <i>Gigartina Teedii</i> (Roth) Lamour. | 82. <i>Peyssonnelia caulifera</i> Okam. |
| 58. <i>Gigartina intermedia</i> Suring. | 83. <i>Corallina radiata</i> Yendo. |
| 59. <i>Euclima spinosum</i> (L.) J. Ag. | 84. <i>Zonaria Diesingiana</i> J. Ag. |
| 60. <i>Ceratodictyon spongiosum</i> Zanard. | 85. <i>Scytosiphon lomentarius</i>
(Lyngb.) J. Ag. |
| 61. <i>Gracilaria confervoides</i> (L.)
Grev. | 86. <i>Endarachne Binghamiae</i> J. Ag. |
| 62. <i>Hypnea seticulosa</i> J. Ag. | 87. <i>Cladosiphon decipiens</i> (Suring.)
Okam. |
| 63. <i>Hypnea Saidana</i> Holmes. | 88. <i>Cylindrocarpus rugosa</i> Okam.
Sp. Nov. |
| 64. <i>Gastroclonium ovale</i> (Huds.)
Kuetz. | 89. <i>Leathesia difformis</i> (L.)
Aresh. |
| 65. <i>Erythrocolon Muellieri</i> (Sond.)
J. Ag. | 90. <i>Mesogloea crassa</i> Suring. |
| 66. <i>Nitophyllum uncinatum</i> (Turn.)
J. Ag. | 91. <i>Chordaria abietina</i> Rupr. |
| 67. <i>Caloglossa Leprieurii</i> (Mont.)
J. Ag. Var. <i>continua</i> Okam.
Nov. Var. | 92. <i>Ulva conglobata</i> Kjellm. |
| 68. <i>Caloglossa ogasawaraensis</i>
Okam. | 93. <i>Chaetomorpha crassa</i> (Ag.)
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Fkbg. | 100. <i>Brachytrichia Quoyi</i> (Ag.)
Born. et Flah. |

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TO THE READER!

Since Nov. 1900, I had published "*Illustrations of the Marine Algae of Japan*," which, however, had unfortunately to be discontinued after the issue of only 6 numbers (Pl. I—XXX). The present ICONES which is published by very limited fund of the author may be considered as continuation of that "*Illustrations*,"

Descriptions in English are limited to those plants which are either new or little known among the algologists of the world.

The literature which are quoted under each species are restricted only to those which the author had chance to consult with.

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K. Okamura *Rigakuhakushi.*



Contents of No. V. (Pl. LXXI—LXXV.)



Cryptonemia Schmitziara Okam.

Desmarestia ligulata (Lichtf.) Lamour.

Desmarestia viridis (Muell.) Lamour.

Desmarestia latifolia (Rupr?) Kuetz.

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Since Nov. 1900, I had published "*Illustrations of the Marine Algae of Japan*," which, however, had unfortunately to be discontinued after the issue of only 6 numbers (Pl. I—XXX). The present ICONES which is published by very limited fund of the author may be considered as continuation of that "*Illustrations*,"

Descriptions in English are limited to those plants which are either new or little known among the algologists of the world.

The literature which are quoted under each species are restricted only to those which the author had chance to consult with.

緒 言

明治三十三年十一月以來予ハ日本海藻圖說ヲ敬業社ヨリ出版シタレドモ、不幸ニシテ僅ニ第一卷第六冊迄第三十圖版ニ至ルヲ出シテ中絶スルコト、ナリス。爾來是ガ再興ヲ企圖シタリシカドモ何レノ書肆モ利益ノ如何ヲ打算シテ、敢テ之ガ出版ノ難キニ當ルモノアラズ。茲ニ於テ、予元ヨリ資金ノ富裕ナルモノアラズト雖モ、獨力之ガ經營ニ從事シ、以テ此學ノ爲ニ微衷ヲ盡サント決セリ。是レ此書ヲ發刊シタル所以ナリ。

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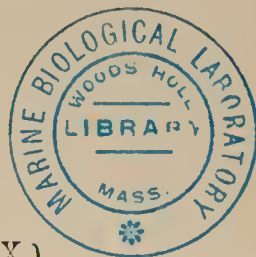
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ICONES OF JAPANESE ALGÆ.

Vol. II. No. VI.

BY

K. Okamura *Rigakuhakushi.*



Contents of No. VI. (Pl. LXXXVI—LXXX.)

Champia parvula (Ag.) J. Ag.
Constantinea rosa-marina (Gmelin) Post. et Rupr.
Dasyopsis plumosa (Bail et Harv.) Schmitz.
Campylaeophora Hypnaeoides J. Ag.
Cladophora rugulosa Martens.
Microdictyon pseudohapteron A. et E. S. Gepp.

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THE AUTHOR.

November, 1910.

Tokyo.

K. OKAMURA.

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ICONES OF JAPANESE ALGÆ.

Vol. II. No. VII.

BY

K. Okamura *Rigakuhakushi.*



Contents of No. VII. (Pl. LXXXI—LXXXV.)

Botryocarpa japonica Okam. n. Sp.

Delesseria fimbriata De la Pylaie.

Delesseria Middendorffii Rupr.

Chordaria abietina Rupr.

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December, 1910.

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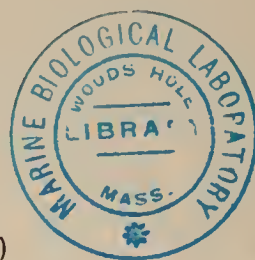
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ICONES OF JAPANESE ALGÆ.

Vol. II. No. VIII.

BY

K. Okamura *Rigakuhakushi.*



Contents of No. VIII. (Pl. LXXXVI—XC.)

Callymenia cribrōsa Harv.

つかさあみ

Dasyphila Tagoi Okam. n. sp.

たごのり

Cladosiphon decipiens (Suring.) Okam.

もづく

Chordaria flagelliformis (Muell.) Ag.

ながまつも

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June, 1912.

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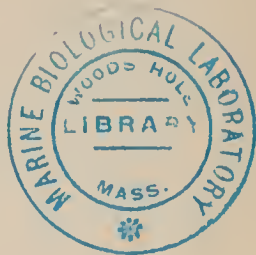
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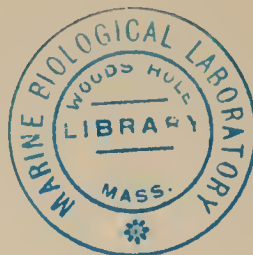
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ICONES OF JAPANESE ALGÆ.

Vol. II. No. IX.

BY

K. Okamura *Rigakuhakushi.*



Contents of No. IX. (Pl. XCI—XCV.)

Odonthalia corymbifera (Gmel.) J. Ag.

はけさきのこぎりひば

Leveillea jungermannioides (Mart. et Hering) Harv.

じやばらのり

Symphyocladia marchantioides (Harv.) Fkbg.

こざねも

Gloiopeltis cervicornis (Sur.) Schm.

はなふのり

Chaetomorpha spiralis Okam.

ふとじゆすも

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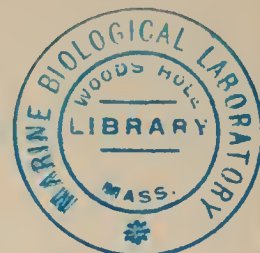
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BY

K. OKAMURA *Rigakuhakushi.*

Contents of No. X (PL. XCVI—C)



Symphyocladia linearis (Okam.) Falkenb.

ほそこざねも

Symphyocladia gracilis (Martens) Falkenb.

いそむらさき

Pterosiphonia fibrillosa Okam. n. sp.

けはねぐさ

Acetabularia caraibica Kuetz.

つのかさのり

Chondria intricata Okam. n. sp.

もつれゆな

Ulva reticulata Forsk.

あみあをさ

Acetabularia minutissima Okam. n. sp.

ひなかさのり

Acetabularia Calyculus Quay et Gaimard.

ほそえがさ

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